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ABSTRACT

This study investigates the correlates and consequences of grade repetition on student academic progress and social and emotional development using the first grade cohort data from the "Prospects" longitudinal database. Analyses looked at two types of comparisons, same age and same grade, on three contrasting groups of students: (1) retained students versus all never retained children; (2) retained students versus all never retained students adjusting for factors that influence retention; and (3) retained students versus a low-achieving sample of nonretained children. In this study, consequences of grade retention on social and emotional development were measured by teacher rating of student attention, cooperation, and participation. Patterns of differences between retained and promoted students varied somewhat with the sample used and whether same age or same grade comparisons were being made. Differences in ratings of attention/motivation to learn, however, were consistently observed prior to retention. These differences were consistently reduced after retention across the various samples and comparisons being made. Differences between ratings of cooperation and participation prior to and following retention were not as striking or as consistent as those for attention/motivation. Comparison of the experiences, classroom organization, instructional content, and approaches in the regular and retained year found the two years highly similar in many dimensions, suggesting that grade retention does amount to repeating the same grade. Implications for practice are discussed. Six appendixes provide study data and detailed analyses. (Contains 40 exhibits and 14 references.) (SLD)

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GRADE RETENTION

Prevalence, Timing, and Effects

Nancy L. Karweit

Report No. 33 / March 1999

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CENTER FOR RESEARCH ON THE EDUCATION OF STUDENTS PLACED AT RISK

Johns Hopkins University & Howard University

GRADE RETENTION

Prevalence, Timing, and Effects

Nancy L. Karweit

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Report No. 33

March 1999

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The Center

Every child has the capacity to succeed in school and in life. Yet far too many children, especially those from poor and minority families, are placed at risk by school practices that are based on a sorting paradigm in which some students receive high-expectations instruction while the rest are relegated to lower quality education and lower quality futures. The sorting perspective must be replaced by a "talent development" model that asserts that all children are capable of succeeding in a rich and demanding curriculum with appropriate assistance and support.

The mission of the Center for Research on the Education of Students Placed At Risk (CRESPAR) is to conduct the research, development, evaluation, and dissemination needed to transform schooling for students placed at risk. The work of the Center is guided by three central themes — ensuring the success of all students at key development points, building on students' personal and cultural assets, and scaling up effective programs — and conducted through seven research and development programs and a program of institutional activities.

CRESPAR is organized as a partnership of Johns Hopkins University and Howard University, in collaboration with researchers at the University of California at Santa Barbara, University of California at Los Angeles, University of Chicago, Manpower Demonstration Research Corporation, University of Memphis, Haskell Indian Nations University, and University of Houston-Clear Lake.

CRESPAR is supported by the National Institute on the Education of At-Risk Students (At-Risk Institute), one of five institutes created by the Educational Research, Development, Dissemination and Improvement Act of 1994 and located within the Office of Educational Research and Improvement (OERI) at the U.S. Department of Education. The At-Risk Institute supports a range of research and development activities designed to improve the education of students at risk of educational failure because of limited English proficiency, poverty, race, geographic location, or economic disadvantage.

Abstract

The present study investigates the correlates and consequences of grade repetition on student academic progress and social and emotional development using the first grade cohort data from *Prospects*. The report addresses four major topics: the measurement, prevalence and demographics of retention, the timing of retention, the academic achievement and behavioral effects of retention, and the context and content of retention.

The majority of children in grades K-3 do not repeat a grade. Some 18.4 percent of the children repeat a grade by the end of grade 3. Of the children who do repeat, most (90.5%) repeat a grade only one time. First grade is the most frequent grade for retention. Of the retentions that take place in K-3, 51.8% take place in grade 1. However, there are significant numbers of children who repeat kindergarten or attend a transitional first grade program.

Several background and demographic factors substantially increase the chances of being retained in grade, namely gender (male), race/ethnicity (Other), student mobility, evidence of disability and poor health status, larger family size, living in the South, attending a high poverty school and being a Chapter 1 student. Background and other factors that protect children from being retained in grade include being of Hispanic origin, attending preschool, living in an urban area, having a more educated mother with a higher income, and being rated by the teacher as more motivated and not having trouble paying attention.

The timing of retention is also related to child, family, and school characteristics. White children in rural and Western states who attend medium poverty schools are more likely to be held back in kindergarten and in pre-first programs than they are at first grade or later. Children who are Black, who participate in Chapter 1, and who attend urban and high poverty schools in the South are more likely to be retained in first grade or later than they are in kindergarten.

The report addresses the academic consequences of grade retention in analyses that look at two types of comparisons (same age and same grade) on three contrasting groups of students (retained students vs. all never retained children, vs. all never retained children adjusting for factors that influence retention, and vs. a low achieving sample of non-retained children.)

Same age comparisons generally did not yield positive results for retention on achievement.

The report addresses the consequence of grade retention on social and emotional development as measured by teacher rating of student attention, cooperation, and participation.

Patterns of differences between retained and promoted children varied somewhat with the sample used and whether same age or same grade comparisons were being made. Differences in ratings of attention/motivation to learn, however, were consistently observed prior to retention. These differences were consistently reduced after retention across the various samples and comparisons made. The difference between ratings of cooperation and participation prior to and following retention were not as striking or as consistent as those for attention/motivation.

Finally, the report compares the experiences, classroom organization, instructional content and approaches in the regular and the retained year and finds that the two years are highly similar in many dimensions — i.e., grade retention does amount to repeating the same grade. Implications for practice are discussed.

Acknowledgment

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Table of Contents

	Page
I. Retention Issues	**1**
Prospects Data Description	3
Prevalence of Grade Retention	5
When Are Children Retained in Grade?	11
Discussion	13
II. Who Repeats a Grade?	**14**
Correlates of Grade Retention	14
Predictors of Grade Retention	19
III. The Timing of Retention	**23**
Who is Held Back When?	23
IV. Retention and Standardized Test Performance	**29**
CTBS/4	29
Comparisons	31
Same-Grade Comparisons	32
Same-Age Retention Comparisons	40
Discussion	43
V. Retention and Social and Emotional Development	**46**
Methods and Data	47
Retention and Behavioral Ratings	48
Discussion	58
VI. What is Retention?	**62**
Classroom Features in Retained and Failed Year	62
Summary	**66**
References	**69**

Appendices

A. Description of measures

B. Analyses of retention effects on the achievement of children who repeated kindergarten, first grade (in 1991-1992) and second grade

C. Analyses of retention effects on achievement for students retained in kindergarten, first grade (in 1991-1992) and second grade

D. Measurement of attention motivation, cooperation and participation

E. Analyses of retention and behavioral measures for children repeating kindergarten, first (1991-1992) and second grades

F. Behavioral ratings and student demographic factors

I. Retention Issues

Being retained in grade is an educational practice that has been both condemned (Shepard & Smith, 1989) and applauded in educational research studies (Alexander, Entwisle, & Dauber, 1994). While some call the practice an ineffective, stigmatizing waste of resources and time, others point to the "success of failure."

Why do studies reach such different conclusions about the benefits and drawbacks of grade retention? Several methodological factors have contributed to the uncertainty of the verdict on grade retention. First, as Jackson (1975) noted over two decades ago, the study design influences the conclusions reached in a predictable way. Jackson classified studies into three design types and showed how the design type influenced the conclusions of the study. Design Type I, comparison of promoted to retained students after grade retention, favors the promoted students, who were more advantaged at the outset. Design Type II compares retained students before and after retention and shows that retained students do make progress in the year of retention. This type of study favors retention, then. Design Type III, an experimental design in which comparable students are randomly assigned to be retained or promoted, provides the best evidence of effectiveness. However, there are only three studies which Jackson found in this category (Cook, 1941; Farley, 1936; Klene & Branson, 1929). Jackson concluded that there were no valid results showing the positive effects of retention.

Second, the *basis of comparison* is an important substantive and methodological issue. Are students compared when they are the same age or when they are in the same grade? Studies based on same-age comparisons tend to favor promotion while studies focusing on same-grade comparisons tend to favor retention. Often, meta-analyses of retention studies, while recognizing the distinction between same-age and same-grade comparisons, end up presenting an average effect size for retention which is an average of the two types of effects. Often this leads to the conclusion that there is no effect for retention, since same-age comparisons favor promotion and same-grade comparisons favor retention (Holmes, 1990; Shepard and Smith, 1990).

A third issue affecting the conclusions about grade retention is the fact that grade retention encompasses many different educational practices. Grade retention may have different effects depending upon what constitutes the practice called "retention." Some studies have shown that retention in which students received targeted additional services was effective while simply recycling students through the same grade again was not (Karweit, 1992).

A fourth methodological issue is raised in a recent study by Alexander et al. (1994) that examined the effects of retention in a sample of Baltimore City schools and concluded that

retention was beneficial for students. The study made an important change in the way in which the effect of retention was gauged. In this study, the differences between retained and promoted children *prior to retention* became the baseline for comparison. Their approach changed the question from *Did retention make the two groups equivalent?* to *Did retention reduce the gap between the two groups?* In the study, effectiveness was judged by how retention affected the prior differences. Their conclusions of the benefits of retention are based on the fact that retention significantly reduced the size of the gap between retained and promoted students that existed prior to retention. In this way, the authors argue that retention is effective because the gap between retained and promoted children that existed prior to retention is appreciably reduced.

A final issue affecting the consistency of results of retention studies is that most studies have been conducted within one school or one school district. The generalizability of the conclusions to a broader setting is therefore an issue. For example, to what extent do the Alexander et al. results, found in Baltimore City data in the 1980s, hold up across other districts in other years? Because there are few comprehensive national statistics on the prevalence of retention, much less on the consequences of grade retention, this question has yet to be addressed adequately.

The purpose of the present study is to address once again the question of the effects of retention, but with some important differences from previous studies. In contrast to most prior studies, this investigation considers the effects of retention using a nationally representative data set (*Prospects*). Given the wealth and breadth of data on children, their parents, teachers, schools and communities, the *Prospects* data provides a unique resource for investigating the effects of educational practices such as retention. In addition, the study pays particular attention to the influence of methodology on conclusions just discussed in this introduction. For example, we take care to distinguish such important factors as whether effects are derived on the basis of same age or same grade comparisons. The key questions addressed in this report are:

- What is the prevalence of grade retention?
- What are the characteristics of students who are retained in grade?
- When does grade repetition take place?
- Do particular students follow specific patterns of grade repetition?
- What are the academic effects of grade repetition?

- What are the effects on social and emotional development of grade repetition?
- Do instructional practices differ in the retained year from those experienced the previous year?

Prospects Data Description

We carry out this examination of retention using the first grade cohort data from *Prospects*, a nationally representative longitudinal data base gathered as a result of legislation that reauthorized Chapter 1/Title I in 1988. The Congressional mandate that authorized *Prospects* called for a collection of a national longitudinal data base that would permit comparisons of students who were in and who were not in Chapter 1. To meet this mandate, the design of the *Prospects* study resulted in the collection of a nationally representative longitudinal sample of first, third, and seventh grade cohorts. A multi-stage stratified sampling plan was used. In the first stage of sampling, 120 districts were drawn across the four census regions, and three levels of urbanization. Within strata, districts were selected proportionate to a measure of size reflecting the estimated number of economically disadvantaged students. Within this sample of districts, schools were then stratified on the basis of proportions. Poor and LEP children and schools with higher concentrations were selected with higher probabilities. As a consequence, the *Prospects* data over-represents economically disadvantaged districts and schools in comparison to the population as a whole. Sample weights are supplied which adjust for these differences. However, sample weights have not been developed that adjust for non-response and attrition factors. Lacking such weights, the analyses in this report are carried out using the unweighted data.

Within the majority of the sampled schools, all students in sampled grades were included in the sample. Students were not excluded on the basis of disability, lack of English proficiency, or any other reason. In very large schools, only three classrooms at a given grade were included. This sampling procedure yielded large numbers of students. The first grade cohort consisted of 10,280 students who entered first grade in 1991. The third grade cohort consisted of 10,333 students who were in the third grade in the spring of 1991 while the seventh grade cohort was comprised of 7,214 students who were in the seventh grade in spring of 1991.

The first grade cohort was followed for three additional time points, in the spring of 1992, 1993, and 1994. The third grade cohort was followed for a total of four time points, spring

1991- spring 1994. Finally, the seventh grade cohort was followed for only three years, from 1991-1993.

The first grade cohort is used in this study of retention because of the greater incidence of grade retention in grades 1-3 and because there are measures available before, during, and after the grade retention for this sample of students. Given the approach developed by Alexander et al., the availability of data prior to retention is of particular importance. Of the *Prospects* data, the first grade cohort provides the best sample for tracking differences between retained and promoted students before, during, and after retention. Consequently, we restrict analyses in this report to the first grade cohort.

Within each school selected to be in the sample, all students in the targeted grade were included in the sample. Annual assessment of student achievement progress, using the CTBS-IV, was carried out.[1]

A variety of data collection instruments provided background and contextual information about the student, his or her family, classroom, school, and school district. Parents of each sampled student completed a questionnaire about the student's home environment. This parent questionnaire was administered in 1991-1993 to all parents. An abbreviated version was administered in 1994 to those parents who had not previously responded to the questionnaire. Data describing classroom and instructional practices of regular and Chapter 1 teachers was collected annually. Information about the school and the district was captured as well on an annual basis. Teachers were also asked to rate the student's academic competencies and behavioral and social characteristics using a student profile. Student questionnaires gathered information about student experiences in and out of school (for grade 3 and older students only). Finally, student record abstract information was collected each year.

To summarize, for the first grade cohort, data pertaining to the following areas were obtained:

- Student cognitive performance (CTBS-IV)
- Abstract of student school experiences
- Profile of student capacities and characteristics (completed by the teacher)
- Regular teacher questionnaire
- Chapter 1 teacher questionnaire
- Characteristics of the school and programs

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[1] More information on the *Prospects* design and sample characteristics is found in Bryant (1991).

- Principal questionnaire
- Parent questionnaire
- School district questionnaire

In this investigation, we focus on those students who were longitudinally present in all relevant data collection periods. To be included in this longitudinal first grade sample, students had to be in the sample at the fall of 1991, the spring of 1992, the spring of 1993, and the spring of 1994. In addition, the students had to have complete CTBS achievement test information to be included. These criteria resulted in a sample size of 9,240 students who serve as the basis of the investigation. These students were in 196 schools in the fall of 1991.[2]

Prevalence of Grade Retention

Given the importance accorded the topic, surprisingly little national data exists on the extent of grade repetition. The most complete source on current, national rates of grade repetition is from the National Household Education Survey (NHES). This survey has been carried out biennially since 1991 and consists of a phone interview of parents in selected households. According to the responses to the question the parents were asked about grade retention, in 1991, some 11.3 percent of first graders were either repeating first grade or had repeated kindergarten. The relevant percentages declined in 1993 and 1995, being 10 percent and 7.1 percent respectively.[3]

Another data source for national statistics on grade retention is provided by the Child Health Survey (CHS) fielded in 1988. Data from the CHS indicate that in 1988 some 7.6 percent of kindergarten and first grade students were retained in grade. The CHS and the NHES suggest that by first grade between 7 and 11 percent of children have been retained.

It is important to recognize that there may be differences in what is included under the practice of "retention." In particular, transitional first grades and junior or developmental kindergartens may be counted as retention in grade by some but as attendance in special

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[2] Missing data for the independent variables were imputed using the EM algorithm. This procedure utilizes available data to provide appropriate estimates of the missing values. Imputation is based upon items within and across instruments. The interested reader is referred to a description of this procedure by Pollack and Rock (1996).

[3] Tables provided by NCES are the source of these data.

programs by others. Here, we consider any practice that delays entrance to the next grade as retention.

The rates of grade retention may vary for many other reasons than how retention is defined. For example, studies that focus on schools with a high concentration of poor and minority students may report higher retention rates. For example, Alexander et al. (1994), using a 1981 sample of first graders in Baltimore City, estimate that 40 percent of students are "off-time" through their first five years in the school system.[4] This estimate, of course, is not for a national sample, but for Baltimore City. Reynolds (1993), using a sample of Chicago schools, finds that about 20 percent of students in grades 1-3 are retained. The differences between Reynolds' and Alexander et al.'s estimates may reflect differences in policies in Chicago and Baltimore as well as historical or temporal differences in retention practices.

The *Prospects* data are useful for addressing issues of the extent and consequences of grade repetition. The data pertain to a nationally representative sample and they provide information about kindergarten retention as well as attendance in transitional first grade programs.

Three sources supply information about the extent of grade retention: the student abstract data (taken from the records maintained by the school), the parent questionnaire data, and the survey control file data (used in test administration and sample management). These sources of data were collected independently of each other and provide information about retention prior to and during the *Prospects* data collection. The survey control file provides information on grade progression patterns from fall of grade 1 through spring of grade 3 in the years of the survey administration, 1991-1994. The student record abstract reports on retention prior to the survey and during the first survey year. The parent information also reports on retention prior to and in the first survey years.

Our goal is to build as complete an indicator of the prevalence of grade retention as possible by reconciling the abstract, parent, and survey control file data. The procedure used will first reconcile the abstract and parent data, as they provide measures of kindergarten and first grade retention that occurred prior to the longitudinal data collection. Then, the grade progression patterns within the survey control file will be consulted to determine grade repetition during grades 1 through 3.

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[4] Alexander, Entwisle, & Dauber (1994), p. 39.

We will produce two types of indicators. The first indicator will simply be a dummy variable indicating whether the student has ever been retained or not. The second set of indicators will be yearly grade retention dummy variables for each year of the survey. For creating both indicators, we will utilize the three sources of information about grade retention.

Student Abstract

There are 9,240 students in the longitudinal first grade cohort sample. These are the students who were present in the sample from the fall of 1991 through the spring of 1994. Of these students, abstract information from the school records was obtained for 8,433, or 91.3 percent of the cases. Specific information about retention was available for 7,976 students, or 86.3% of the cases. The abstract indicated if students were retained in kindergarten, were currently repeating first grade, or had attended a transitional kindergarten, first grade program. Exhibit 1.1 shows the frequency of responses to this question. Using the abstract data as a source, then, we find that about 12 percent of the students had been retained prior to or during the fall of 1991.

Exhibit 1.1
Frequency of Grade Repetition
Source: 1992 student abstract

	Frequency	Valid Percent	Percent
Never retained	7022	88.0	75.9
Repeated Kindergarten	294	3.7	3.2
Attended Prefirst	273	3.4	2.8
Repeating First grade in 91-92	387	4.80	4.20
Missing Abstract or missing this question	1264		13.7
Total	9240		

Parent Questionnaire

Parents were also asked about the grade retention patterns of their children. Of the 9,240 children in the sample, 7,566 of their parents (81.8%) responded to the question about

grade repetition. Of this number, 10 percent indicated that their child had repeated a grade (764 responses). Exhibit 1.2 displays these frequencies.

Exhibit 1.2
Frequency of Grade Repetition
Source: 1992 Parent questionnaire

Has your child repeated a grade or been held back?	Frequency	Valid Percent	Percent
Yes	764	10.1	8.3
No	6802	89.9	73.6
No response or no questionnaire	1674		18.1
Total	9240		

The retention rates estimated by the parent and the abstract data are similar — 12 percent according to the abstract and 10 percent according to the parent data.

Agreement between Parent and Abstract Data at the Child Level

First, we show, in Exhibit 1.3, the number and percentage of cases having both abstract and parent data, either abstract or parent data, and missing data in both cases. In about 75 percent of the total cases, both parent and abstract data are available. These cases can be used to measure the extent of consistency between the two sources, which can indicate the feasibility of using the 12.2% of the cases having only the abstract or the 7.8 percent of the cases having only the parent data as sources of information on grade retention. Finally, about 5.8 percent of the cases (n=545) are missing both abstract and parent data, and therefore cannot be included in remaining analyses in this investigation.

Exhibit 1.3
Number and Percent of Cases with Parent and/or Abstract Information

Abstract data present	Parent data present	N of cases	% of cases
YES	YES	6847	74.1
YES	NO	1129	12.2
NO	YES	719	7.8
NO	NO	545	5.8

Exhibit 1.4 shows the agreement of parent and abstract responses for a given child. Of the 6,847 cases for which there are both parent and abstract data related to retention, nearly 94 percent are in agreement on the student's retention status. (Refer to the "yes - yes" and "no - no" combinations in Exhibit 1.4.) We assume that the students who have partial data (either the parent or the abstract) are no different from those who have both parent and abstract data in their consistency across instruments in order to keep as many cases as possible in the sample. We therefore include in our final sample those students for whom there was data either from the abstract and/or the parent data. There are, then, 8,695 children in the longitudinal sample for whom we have data on retention prior to the first year of the study.

Exhibit 1.4
Number and Percent of Cases with
Parent and/or Abstract Information

	Abstract "Yes" child was retained	Abstract "No" child was not retained	Abstract missing data
Parent "Yes" child was retained	502 status=retained	192 status=retained	70 status=retained
Parent "No" child was not retained	226 status=retained	5927 status=not retained	649 status=not retained
Parent missing data	226 status=retained	903 status=not retained	545 status=missing data

In addition to learning whether a student was retained, the abstract and parent data provide information about when the retention occurred. That is, we can distinguish among kindergarten retention, attending transitional first grade, and first grade retention with these data.[5] Exhibit 1.5 indicates the percentage of students who were retained in kindergarten, who were enrolled in pre-first programs, or who were currently repeating the first grade, as indicated by the abstract or parent questionnaire. The percentages in this table are based on the number of students having parent or abstract data available, or 8,695 cases.

[5] The parent questionnaire does not distinguish between transitional first grade and first grade retention; that is, it only asks about retention in kindergarten and first grade.

Exhibit 1.5
Percentage of Students Who Were Retained in Kindergarten, Attended a Pre-first Transitional Program or Are Repeating First Grade in 1991-1992

Source: abstract and parent data

Retention Pattern	Number and Percent
Retained in kindergarten	460 (5.0 %)
Attended transitional first	273 (3.0)
Retained in first (1991-1992)	553 (6.0)
Total	8695

Survey Control File

The survey control file provides information on grade in school from the date of data collection, that is, from the fall of 1991 through the spring of 1994. The grade progression patterns are then used to infer if grade repetition took place. The children in the first grade cohort were, by definition, all in the first grade at the start of the study (fall 1991). As discussed earlier, some of these first graders were in first grade for the second time in 1991-1992. Exhibit 1.6 shows the grade in school for the 9,240 students in the longitudinal first grade cohort. Some 8,702, or 94 percent, were in the expected grade at the time of the survey in 1994. Note that this percentage does not include those students who were repeating first grade when they were sampled at the start of the survey or who were retained in kindergarten.

Exhibit 1.6
Grade by Calendar Time

	Grade 1	Grade 2	Grade 3	Grade 4
Spring 1992	9240 (100.0)			
Spring 1993	344 (3.7)	8887 (96.1)	9 (0.0)	
Spring 1994		521 (5.6)	8702 (94.2)	17 (0.00)

It is also informative to look at the grade progression patterns utilized. Exhibit 1.7 provides the number and percentage of students utilizing particular patterns.

Exhibit 1.7
Grade Progression Patterns

Grade Progression Pattern (1992-1994)	Number and Percent of Cases
1-1-2 retained in first, progressed to second	315 (3.4%)
1-1-3 retained in first, progressed to third	28
1-1-4 retained in first, progressed to fourth	1
1-2-2 retained in second	206 (2.2)
1-2-3 normal pattern	8670 (93.8)
1-2-4 skipped third	11
1-3-3 skipped second and retained third	4
1-3-4 skipped second	5
Total cases	8695

We combine the estimates from the abstract, parent, and survey control file to create a global measure of grade retention and yearly indicators of grade repetition. A child is considered to have been retained in grade if he or she were retained in kindergarten, attended a pre-first transitional program, or repeated grades 1 and 2. The global grade repetition indicator, EVER_RET is simply a "1" for those with indication of grade repetition and a "0" if there is no indication of grade retention. The students for whom there were no parent or abstract data are excluded from the sample. Across this longitudinal sample (excluding the 545 cases with no data on early retention), we obtained an overall retention rate by the end of the third grade of 18.4 percent (n=1604 8695).

When Are Children Retained in Grade?

Four yearly indicators of retention (RET91, RET92, RET93, and RET94) index whether a student was retained or not in a given year. Each is a dummy variable. RET91 is "1" if the child were retained in kindergarten or attended a transitional first grade program. RET92 is a "1" if the child is repeating first grade in the first year of the study. In 1993, students could have a value "1" if they repeated second grade, or possibly if they doubly repeated first grade. Finally, RET94 is a "1" for those students who are repeating second grade or who are in the first grade for the third time.

Exhibit 1.8 displays the various progression patterns and the associated values for the yearly retention indicators. The last row in the table shows the percentage of students who repeated in the relevant year. In terms of the number of students who were repeating a grade in a given year, 8.1% of the sample repeated a grade prior to the survey, 6.4% repeated the grade in the year of the survey, while a smaller percentage repeated a grade in 1993 (3.6%) and in 1994 (2.1%).

Exhibit 1.9 shows the percentage of students in the *Prospects* sample who repeated a grade once, twice, or three or more times.

Exhibit 1.8
Grade Progression Patterns and Corresponding Retention Indicators

Pattern	Year 90-91	91-92	92-93	93-94	ret91	ret92	ret93	ret94	n/%
normal progression	(K)	1	2	3	0	0	0	0	7091 81.6%
repeat k/or transitional	(K-K) /T1	1	2	3	1	0	0	0	598 6.8%
repeating first in 91-92	(1)	1	2	3	0	1	0	0	445 5.1%
repeating first in 92-93	(K)	1	1	2	0	0	1	0	250 2.8%
repeating first in 92-93 and repeated K	(K-K)	1	1	2	1	0	1	0	31 .34%
repeating 2nd in 93-94	(K)	1	2	2	0	0	0	1	158 1.8%
repeated K and 1	(K-K)	1	1	2	1	1	0	0	60 .70%
repeated first grade twice	(1)	1	1	2	0	1	1	0	27 .31%
repeated K and second	(K-K)	1	2	2	1	0	0	1	14 .16%
repeated first and second	(1)	1	2	2	0	1	0	1	18 .20%
other multiple retentions									3
				TOTAL %	8.1%	6.4%	3.6%	2.1%	8695

Exhibit 1.9
Percentage of Prospects Sample Repeating
A Grade Once, Twice or Three or More Times

Frequency	Number of cases	Percentage
Never repeated	7091	81.7
Repeated once	1451	16.7
Repeated twice	150	1.6
Repeated 3 or more times	3	0

Discussion

This chapter reconciled several sources of data, including reports from parents and schools, to develop a measure of grade retention for each child. Across the first grade longitudinal sample, there were 5.8 percent of cases which had missing data on the retention question. These students were excluded from the analysis, reducing the case base to 8,695 students.

The majority of children in grades K-3 in the *Prospects* study never repeat a grade in the sequence up to grade 3. Using the unweighted estimates, which do not adjust for the oversampling of disadvantaged children, we find that some 18.4 percent of these first graders have repeated a grade by the end of third grade. For the children who do repeat a grade, most of the time (90.5 percent) they repeat a grade only once. That is, the incidence of multiple grade repetitions is small. Finally, first grade is the grade in the K-3 sequence that is repeated most frequently. Of the total retentions that take place in K-3, 51.8% take place in grade 1. It is interesting to note that there is a sizeable group of children who are retained prior to the start of first grade. The estimate of the prevalence of retention is affected, of course, by whether these retentions in junior kindergartens, transitional first grades, and the like are included as they are in this study.

Chapter Summary

- The prevalence of grade repetition for students who entered first grade in 1991 in the *Prospects* sample is 18.4 percent.
- Most children who repeat a grade do so only one time (90.5%).
- First grade is the grade most frequently repeated. Of the total retentions that take place in K-3, 51.8% take place in grade 1.

II. WHO REPEATS A GRADE?

Who repeats a grade? This chapter describes the demographic and other characteristics of students who repeat a grade. Here, we carry out two sets of analyses. The first set looks at the univariate relationships between student background and other characteristics and retention in grade. These analyses are reported in the section on Correlates of Grade Retention. The second set looks at the predictive value of these variables in a multivariate model.[1] These analyses are reported in Predictors of Grade Retention. Appendix A provides information on the measurement of the student, school, and classroom variables used in these analyses.

The literature on grade retention presents a fairly consistent portrait of the retained student. In particular, the literature suggests that males, minority students, students from lower socio-economic homes, and students with disabilities and poor health conditions are at risk of being retained in grade. In addition, because student immaturity is often offered as a reason for holding a child back or for placement in a transitional first or developmental kindergarten program, certain behavioral and social attributes of children have also been linked by research to retention (Alexander, Entwisle, & Dauber, 1994).[2]

Following this prior literature, we describe salient attributes of the retained and non-retained populations in the *Prospects* sample.

Correlates of Grade Retention

Exhibit 2.1 presents summary statistics (means or percentages) for students who were retained (third column), not retained (second column), and for the population as a whole (first column). The magnitude of the difference between the retained and non-retained students is reported as well in columns 4 and 5. Column 4 provides the average difference between the two groups while column 5 expresses this difference in terms of the pooled standard deviation.

Exhibit 2.1 informs us, for example, that males are more likely to be retained than are females and that the difference between the proportion of the male population ever retained and the proportion of males never retained is about 12 percentage points. The statistical

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[1] Unweighted calculations are used in both sets of analyses.

[2] The *Prospects* data contains ratings by the teacher of social and attitudinal dimensions (attention to task, cooperation compliance and participation). These ratings were obtained at the end of the first, second and third grade year. In these analyses, ratings from the first grade teacher are utilized.

significance of the difference is indicated as well in Exhibit 2.1 in column 4 (***=p<.001, **=p<.01, *=p<.05). The last column expresses this difference in terms of an effect size, computed as the ratio of the average difference to the pooled standard deviation. Expressing the average difference between the two groups as an effect size provides a common metric across the variables reported in Exhibit 2.1.

Exhibit 2.1
Characteristics of Retained and Non-retained Students

Factor		Total sample n=8695	Never retained n=7091	Ever retained n=1604	Average difference ever-never	Difference in S.D. units
Gender	Male	51.3% (.500)	49.1 (.500)	61.0 (.480)	11.9***	.242
Race ethnicity	White	53.9% (.500)	56.4 (.500)	43.1 (.500)	-13.3***	.267
	Black	20.0 (.400)	17.3 (.380)	31.7 (.470)	14.4***	.343
	Hispanic	19.0 (.392)	19.2 (.392)	18.1 (.390)	-1.1	.049
Health problems		21.2% (.409)	19.2 (.394)	30.2 (.459)	11.0***	.262
Disabilities		17.8% (.383)	14.8 (.355)	31.1 (.463)	16.3***	.388
Socio-economic & family factors						
	Family size	4.72 (1.44)	4.67 (1.42)	4.91 (1.59)	.240***	.159
	Mother's education	12.3 (2.14)	12.4 (2.19)	11.5 (1.85)	-.90***	.445
	Mother's income	24,149 (15484)	25,759 (15435)	17,034 (13583)	-.87***	.601
	Mother's occupational prestige	38.3 (17.6)	39.6 (17.7)	32.4 (15.6)	-7.2***	.431
	Single mother	13.2% (.339)	18.2 (.386)	12.1 (.326)	-6.1***	.171
	Items in the home	11.3 (3.22)	11.5 (3.15)	10.2 (3.33)	-1.3	.041
	Mobility within year	6.0% (.237)	5.0 (.218)	10.4 (.306)	5.4***	.208
Schooling factors	Chapter 1	32.2 (.467)	28.5 (.452)	48.0 (.500)	19.5***	.409
	Head Start	9.6% (.295)	8.9% (.286)	12.5 (.331)	3.6***	1.16

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Exhibit 2.1, cont'd. - Characteristics of retained and non-retained students

Factor	Total sample n=8695	Never retained n=7091	Ever retained n=1604	Average difference ever-never	Difference in S.D. units
Schooling factors (continued)					
Nursery School/PK	31.0 (.462)	34.6 (.476)	15.1 (.359)	-19.5***	.467
Reading score (Fall Score)	468.6 (63.3)	473.2 (62.7)	448.6 (62.1)	-24.6***	.39
Math (Fall Score)	466.6 (69.3)	472.3 (67.6)	441.5 (71.3)	-30.8***	.45
Attention/Motivation	2.31 (.57)	2.39 (.54)	1.95 (.57)	-.44***	.80
School demographics					
Low poverty school	14.3% (.352)	16.5 (.372)	5.7 (.232)	-10.8***	.358
Middle poverty	53.2 (.499)	53.2 (.499)	53.2 (.499)	0.	0
High poverty school	32.2 (.467)	30.2 (.459)	41.1 (.492)	10.9***	.228
Urban	43.8% (.496)	44.5 (.497)	41.1 (.492)	-3.4*	.069
Rural	31.1 (.463)	30.2 (.459)	34.8 (.477)	4.6***	.152
Suburban	25.1 (.433)	25.2 (.435)	24.1 (.428)	-1.1	.025
Midwest	15.6% (.363)	17.5 (.380)	7.1 (.256)	-10.41***	.327
Northeast	21.1 (.408)	20.1 (.406)	22.2 (.416)	2.1	.047
South	38.7 (.487)	35.3 (.478)	53.2 (.499)	17.9***	.367
West	24.6 (.430)	26.2 (.440)	17.6 (.381)	-8.6***	.209

* p<.05, ** p<.01, *** p<.001

A typical finding of retention studies is that males are more likely to be retained than are females. This general finding is corroborated by the *Prospects* data as well. While males comprise about 51 percent of the total sample, they comprise 61 percent of the retained sample. The average difference of the percentage of males in the retained and non-retained group is about 12 points.

The race/ethnicity of the child has also been found to be related to retention in grade. The *Prospects* data follow this general pattern as well. Comparing the proportion of the sample that is White, Black, Hispanic, and Other with the proportion of the retained sample that is made up of these particular groups suggests that Black children are over-represented in the retained group in comparison to their presence in the general population. While Blacks make up about 20 percent of the population surveyed, they make up about 32 percent of the retained population. Hispanics are represented in the retained population to about the same extent as they are in the total population while Whites are under-represented in the retained population (43.1 percent), given their presence in the total population (53.9 percent). Race/ethnicity other includes Asian Americans, Native Americans and any other grouping not identified as White, Black or Hispanic.

The presence of health problems, as rated by the first grade teacher, was also more likely in retained than in non-retained children. Some thirty percent of the retained children, in comparison to 19 percent of the non-retained children, had some significant health problem. The presence of disabilities was also a factor in retention, as 31.3 percent of the retained students, in comparison to about 15 percent of the non-retained children, had some disability indicated in the teacher checklist (visual handicap, hearing problem or deafness, speech, and orthopedic problems).

An association of family socio-economic factors with retention is evident in these data. A cluster of factors that tap these socio-economic elements (family size, mother's education, mother's income and occupation) are related to grade retention in the expected manner. Children who are retained in grade come from larger families and have mothers with lower educational attainment, lower income, and lower occupational prestige than do children who are not retained in grade. The families of children who are retained in grade also appear to be much more mobile than the general population or the families of those who are not retained in grade. About 10 percent of these families who had children who were retained in grade moved in the year between kindergarten and first grade, in comparison to roughly 5 percent of those who were not retained. Finally, the percentage of children living in a household headed by a single parent is lower for retained children than non-retained children. Of the socio-economic factors, only the average number of items in the home is not related to retention.

In terms of school factors, there is a relationship between Chapter 1 participation and retention status. Chapter 1 participants are more likely to be retained in grade than are non-participants. Forty-eight percent of the sample that is retained in grade are in Chapter 1, compared to 29 percent in the sample of never retained children.

The retained students are more likely to have been enrolled in Head Start. In terms of nursery school enrollment, fewer of the retained children attended nursery school or preschool than did those who were never retained (15.1 percent vs. 34.6 percent).

In the fall of the first grade year, the children in the *Prospects* study took the Comprehensive Test of Basic Skills (CTBS-IV). The average scores of the children who had already been retained, or who were going to be retained were significantly lower than those who were never retained. For the total reading score in the fall of the first grade, the average scale score was 449 in comparison to 473, or a difference of twenty-five points, about a third of a standard deviation. Similar differences were recorded for the fall math test. Thus, the students who are retained are less academically prepared at the start of first grade than are the ones who are never retained in grade. This comparison includes some children who had already been retained in grade before their entry to first grade, either by repeating kindergarten or by starting their second tour through first grade in the fall of 1991.[3]

One reason often given for retaining children is student immaturity. By immaturity, teachers and parents are often referring to the child's difficulty in paying attention and being motivated to learn. Teachers rated children's attention/motivation in the spring of the first grade using a 7-item scale (attention span, pays attention in class, motivation to learn, ability to concentrate for at least ½ hour, works hard at school, cares about doing well, and is a creative person). The teacher rated each student on these items using a three-point scale, in which a higher score indicates the student to be more motivated and more likely to pay attention. Looking at the rating of attentiveness of retained (1.95) and non-retained children (2.39), we find that retained children are rated significantly lower than are promoted children on this factor ($p<.001$).[4]

Striking differences in the retention patterns exist as well between low and high poverty schools.[5] While the students in low poverty schools comprise 14 percent of the sample, students in low poverty schools make up only 6 percent of the retained sample. By contrast, students in high poverty schools, who make up 32 percent of the overall sample, make up 41 percent of the retained sample. Relative to their distribution in the population,

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[3] In Chapter 3 we will consider the relationships between these background factors and when children were retained in grade.

[4] We note that attention was measured at the end of the first grade year. Some children would already have been retained while some were yet to be retained.

[5] A low poverty school is defined as one with 0-25 percent of its students on free and reduced lunch program. A high poverty school is defined as one with 75 percent or more of its students eligible for this program.

then, there is a disproportionate under-representation of retained students in low poverty schools and a disproportionate over-representation in high poverty schools.

There is little difference in the distribution of retention by urbanicity of location. Children living in the South, however, are disproportionately likely to be retained. While students in the South make up 39 percent of the sample, they comprise over 53 percent of the retainees. Finally, students in the Midwest are less likely to be in the retained group than their proportion in the population would suggest.

In summary, specific individual, family, and school factors are significantly related to being retained in grade. These factors include gender, race, the existence of health problems and disabilities, family socioeconomic status; the poverty status of the school, and the region of the country. In the next section, we examine the relative contribution of these background, socioeconomic, and school factors on the probability of being retained in grade in a model that simultaneously considers their impact.

Predictors of Grade Retention

Which factors significantly predict grade retention when background, family, and schooling variables are considered in an appropriate multivariate model? To address this question, we regress retention status on the individual background, family, and school variables discussed in the previous section, using logistic regression analysis. Because the dependent variable, retention status, is a dummy variable (i.e. a variable that takes on the values of "0" or "1" only), ordinary least squares procedures will produce biased estimates of the standard errors of the coefficients. Logistic regression analysis is appropriate when using a dummy dependent variable. Because logistic regression terms and output may be less familiar to the reader, a brief concrete example illustrating the central statistics in the logistic model is given.

We start with the simplest case of a single predictor of retention, the variable gender. Carrying out a logistic regression of retention status on gender, we find the beta weight is .49. The beta weight in logistic regression in this case is the log of the odds for retention for males relative to that of females. The cross tabulation of gender and retention in our sample of 8,695 students shows that 625 girls are retained and 3,613 are promoted. For the young boys, 979 are retained and 3,478 are promoted. The odds for being retained for boys are 979/3,478 or .28. The odds for females are 625/3,613 or .17. The boys are therefore 1.64 times as likely to be retained as are the girls. This "odds-ratio" is obtained as the ratio of the odds for retention for males (.28) to the odds for girls (.17) or 1.64. The logistic regression of retention on gender produces the odds ratio of 1.64 and a corresponding beta weight of .49 (the log of the odds-ratio).

Exhibit 2.2 provides the results of the logistic regression of retention status on background, school, and other characteristics. The first column is the beta weight, or the log of the odds-ratio. The odds-ratio is the multivariate extension of our example above. Looking at the odds-ratio for males in Exhibit 2.2, we see that the overall relationship between gender and retention is reduced by the consideration of other factors in the model from 1.64 to 1.33. However, gender remains an important predictor of retention in the equation.

Exhibit 2.2
Logistic Regression Analysis:
Regression of Ever Retained on Demographic and Family Background Factors

Factor	Beta weight B	Significance	Odds-ratio Exp (B)
Male	.2841	.0000	1.3250
Black	.1640	.0705	1.1606
Hispanic	-.4451	.0000	.6407
Other	.3917	.0023	1.4794
Mobility	.4048	.0003	1.4990
Disability	.5262	.0000	1.6926
Health	.1657	.0186	1.1802
Family Size	.0730	.0005	1.0757
Mother's education	-.0813	.0002	.9219
Mother's income	-1.2E-05.	.0004	1.000
Mother's occupation	-.0017	.4951	.9983
Items in the home	-.0057	.6565	.9943
Single parent	.0523	.5694	1.0537
Chapter 1	.1436	.0389	1.1544
Attended Preschool	-.4841	.0000	.6162
Attended Head Start	-.1778	.0657	.8371
School poverty level	.0877	.0053	1.0917
Reading vocabulary	.0003	.5638	1.0003
Attention/motivation	-1.0799	.0000	.3396
Southern region	.2963	.0000	1.3413
Urban school	-.3074	.0000	.7356
Constant	1.8666	.0000	

Using the criterion of $p<.05$ for significance, we find that being Black, attending Head Start, the occupational status of one's mother, the items in the home, growing up in a single parent household, and initial reading vocabulary score are not significant predictors of retention. In this model, these variables predicted retention status correctly about 83 percent of the time. Using a least square regression analysis to obtain a goodness of fit parameter, not available in logistic regression, indicated that the approximate R square was about 15%. That is, these factors explain about 15 percent of the variance in the retention status. We note that starting vocabulary score does not predict retention while attention/motivation scores do. In other analyses, not presented here, in which attention was not in the equation, the initial vocabulary score was a significant predictor of retention status, however.

The analyses suggest that there are significant risk factors for retention and there are protective factors that reduce the chances for retention. The risk factors are indicated by the positive beta weights and the associated odds ratios greater than one. The protective factors have coefficients that are negative and odds ratios that are less than one. Exhibit 2.3 summarizes these results.

Exhibit 2.3
Risk and Protective Factors
in Being Retained in Grade*

Risk Factors	Protective Factors	Not Significant Factors in the Prediction
Male	Hispanic	Black
Other race/ethnicity	Mother's education (high)	Attended Head Start
Mobility	Mother's income (high)	Mother's occupation
Disabiltiy	Urbanicity	Items in the home
Health	Attention motivation(high)	Single parent household
Family Size	Attended nursery school	Initial reading vocabulary
South		
High poverty school		
Chapter 1 student		

* The risk factors raise the chances of being retained in grade while the protective factors reduce it. The exhibit indicates that being a male, with ethnicity race of Other, in a mobile family, etc. raise the chances of being retained, while being Hispanic, having a mother with high education and income, etc. reduces the chances of being retained.

Chapter Summary

- Several background and demographic factors substantially increase the chances of being retained in grade. In particular, the following characteristics increase the likelihood of being retained in grade: male, being of race/ethnicity Other, mobility during the school year, disability and health status which are poor, larger family size, living in the South, attending a high poverty school, and being a Chapter 1 student.

- By the same token, there are background and other factors that serve to protect children from being retained in grade. These include being of Hispanic origin, attending preschool/ nursery school, living in an urban area, having a more educated mother with a higher income, and being rated by the teacher as more motivated and not having trouble paying attention.

- Factors that were not associated in this sample with being retained in grade in the multivariate model included attending Head Start before first grade, the number of items in the home, living in a household headed by a single parent, being of race/ethnicity Black, and the reading vocabulary score at the start of grade 1.

III. The Timing of Retention

Who Is Held Back When?

The previous analyses highlight differences between retained and non-retained children in terms of their academic performance and demographic and family characteristics. Within this general classification of students who are retained, are some students more likely to be held back at specific points in time? Is there a pattern associated with the timing of retention? Are the students who are retained in kindergarten different from those who are retained in first or second grade? This chapter examines these questions about the timing of grade retention.

McArthur and Bianchi (1993) determine, using the National Household Education Survey (NHES:91), that there are demographic differences between those children who repeat kindergarten and those who repeat first grade. Their study suggests that the timing of retention is related to specific characteristics of the children and their life circumstances. Children who repeated kindergarten tended to be White boys in the Midwest while children repeating first grade were more likely to be Black boys living in low-income households who had not attended preschool.

Alexander, Entwisle, and Dauber (1994) look at the timing of retention in their study of Baltimore school children. They do not count retention that took place prior to first grade, such as transitional first grade or repeating kindergarten. Looking only at retentions that occurred in grades one through eight, they conclude that children who are most in need are the ones retained the earliest.

Exhibit 3.1 provides information on the question of who is retained when in the *Prospects* data. The first two columns provide percentages or means for the entire population of first graders and then for those who were ever retained. The next four columns pertain to retentions taking place at different times. The students retained in 1991 (RET91, column 3) were retained in kindergarten or attended a transitional first grade in the year prior to the start of the study) i.e. prior to the fall of 1991). The students retained in 1992 (RET92) repeated the first grade in the academic year 1991-1992, the first year of the study. The students who were retained in 1992-1993 (RET93) repeated the first grade in the second year of the study. Thus, we have two groups of students who repeated first grade, those repeating in 1991-1992 and those repeating in 1992-1993. The second group of repeaters are of particular interest as we have information about them prior to retention, during retention, and after retention. Finally, the repeaters in 1994 (RET94) were repeating the second grade, or were repeating the first grade again in the school year 1993-1994.

Exhibit 3.1
Characteristics of Students by Timing of Retention

Factor	All students	Ever Retained	Retained 1991 (K or T1)	Retained 1992 (1st)	Retained 1993 (1st)	Retained 1994 (2nd)
Male	51.3%	61.0	62.0	61.3	61.9	56.0
Black	20.0%	31.7	24.8	37.0	35.9	40.3
White	53.9%	43.1	46.0	36.3	46.6	40.3
Hispanic	19.0%	18.1	19.4	20.3	12.6	15.2
Health	21.2%	30.2	26.2	29.8	36.5	35.6
Disability	17.8%	31.0	31.4	32.0	35.8	27.7
Family Size	4.7	4.9	5.0	4.9	4.7	5.0
Ma Ed	12.2	11.5	11.5	11.4	11.5	11.5
Ma Income	24,149	17,034	18,127	15,617	15,444	16,925
Ma Occ	38.3	32.4	33.1	31.9	30.6	32.5
Single 1992	13.3%	18.2	15.4	21.5	19.7	19.9
Items home	11.3	10.2	10.4	9.8	9.8	10.5
Mobility	6.0%	10.4	8.6	13.7	8.4	8.4
Chapter 1	32.2%	48.0	37.5	52.8	60.0	58.6
Head Start	9.6%	12.5	10.3	14.6	14.2	12.0
Nursery School	31.0%	15.1	15.2	14.3	14.5	17.8
T8SSRV	468.6	448.6	454.5	468.2	411.5	422.7
T8SSMA	466.6	441.5	451.6	463.9	395.7	407.7
Attention	2.31	1.95	2.06	2.03	1.61	1.71
Low Poverty	14.5%	5.7%	4.5	3.5	6.6	10.8
Middle Poverty	53.2%	53.2	64.0	48.1	46.0	37.1
High Poverty	32.2%	41.1	31.4	48.4	47.4	52.2
Urban	43.8%	41.1	35.3	40.9	42.3	52.9
Rural	31.1%	34.9	39.9	30.0	38.4	29.3
Suburban	25.1%	24.1	24.8	29.1	19.4	17.8
Midwest	15.6%	7.0	6.2	5.8	8.4	6.8
North East	21.1%	22.2	19.4	20.4	26.1	29.3
South	38.7%	53.2	48.2	60.0	57.7	51.8
West	24.6%	17.6	26.2	13.7	7.7	12.0

Exhibit 3.1 suggests that students who are retained prior to first grade and those retained at or after first grade differ in their background, family and school characteristics. White children in rural and Western states in medium poverty schools appear to be more likely to be held back prior to the start of first grade than they are at other points. Black children who participate in Chapter 1 in urban and high poverty schools in the South appear to be more likely to be retained in first or second grade. This pattern of results mirrors that of McArthur and Bianca (1993) and indicates that background and other factors are related to the timing of retention.

For ease of presentation, in Exhibit 3.2 we combine the four yearly retention measures into two: retention prior to first grade and retention at and after first grade. The exhibit contrasts early and late retainees, providing the mean value or percentage of the given factor, the difference between the two groups, the effect size, and the significance level for the difference.

Students who were retained before first grade seem to be more advantaged than those retained later. They are more likely to be White or Other ethnicity, to have homes with higher income and more items in the home, to start school with higher standardized test scores, to be rated more attentive and motivated by their teachers, to live in the West, to reside in rural areas, and to attend middle poverty schools.

Students who were retained later appear to come from more disadvantaged circumstances than those who were retained earlier. The late retainees were more likely than those who were retained before first grade to be a Chapter 1 participant, to be Black, to have a significant health problem, and to attend a high poverty school in an urban setting either in the Northeast or the South.

The following factors were not significantly related to the timing of retention in the univariate analyses:[1] gender, Hispanic origin, presence of disability, family size, mother's educational level, mother's occupational level, student mobility, attending a nursery school, attending Head Start, residing in a suburban region, and living in the midwestern part of the United States.

Looking only at children who were retained, we regressed the timing of retention (early or late) on individual, family, and schooling background factors. The logistic regression analyses indicate that Chapter 1 status, mother's education, the rating of the student's attention motivation, and living in a rural area are the most important predictors of the timing of retention. However, the model fit only about 67% of the cases, indicating that the selected factors did not not predict very well when retention takes place.

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[1] A significance level of $p < .05$ was used to indicate statistically different groups.

Exhibit 3.2

Differences Between Those Retained Before and after First Grade

Factor	All students	Ever Retained	Retained Early (before 1st) n=	Retained Late (1st or later) n=	Difference	Effect Size
Male	51.3%	61.0	61.4	60.2	1.2	.025
Black	20.0%	31.7	23.3	37.1	-13.8***	-.305
White	53.9%	43.1	47.4	40.9	7.5***	.131
Hispanic	19.0%	18.1	19.6	17.1	2.5	.065
Health	21.2%	30.2	.26	33.	-.07***	-.156
Disability	17.8%	31.0	.30	31.	-.01	.422
Family Size	4.7	4.9	4.99	4.85	.14	.087
Ma Ed	12.2	11.5	11.51	11.53	-.02	-.011
Ma Income	24,149	17,034	18,990	16175	2815***	.207
Ma Occ	38.3	32.4	33.5	31.9	1.6	.102
Single 1992	13.3%	18.2	.13	.20	.06**	-.160
Items home	11.3	10.2	10.02	10.53	-.51***	-.153
Mobility	6.0%	10.4	8.868	12	-3.14	-.105
Chapter 1	32.2%	48.0	35.4	56.2	-20.8***	-.427
Head Start	9.6%	12.5	9.70	14	-4.3	-.130
Nursery School	31.0%	15.1	16.0	15	1.0	.028
T8SSRV	468.6	448.6	455.8	443.97	11.9***	.198
T8SSMA	466.6	441.5	452.7	433.5	19.2***	.274
Attention	2.31	1.95	2.10	1.86	.24***	.432
Low Poverty	14.5%	5.7%	5.36	6.58	-1.22	.052
Middle Poverty	53.2%	53.2	65.58	44.84	20.7***	.426
High Poverty	32.2%	41.1	29.1	48.58	-19.4***	-.407
Urban	43.8%	41.1	36.6	45.6	-9.0***	-.192
Rural	31.1%	34.9	39.9	30.8	9.1***	.191
Suburban	25.1%	24.1	23.4	23.5	0	0
Midwest	15.6%	7.0	7.35	7.68	-.33	-.125
North East	21.1%	22.2	19.40	24.39	-5.0***	-.121
South	38.7%	53.2	46.3	57.13	-10.8***	-.217
West	24.6%	17.6	26.9	10.8	16.1***	.427

The timing of retention, then, may be tied to practices, beliefs, and other factors not captured by these standard background measures. For example, the timing of retention may reflect differences in understandings of school readiness and effective strategies to promote school readiness. In that vein, parents may interpret retention that takes place prior to first grade differently than retention that takes place after first grade.

In the parent questionnaire, when asked about the reasons for the retention of their child, parents of children retained early were much more likely to state that maturity was a reason for the retention than were parents of students retained in the first grade or later (see Exhibit 3.3). About 53 percent of the parents of children retained prior to first grade listed maturity as a reason, while only 41 percent of the parents of children who were retained in first grade or later so responded. Parents of children who were retained early were also less likely to see academic difficulties as a reason (49.8% vs 63.6%). The differences are more pronounced when we compare the percentage of parents in the early and late retained groups who gave maturity as their only reason or gave academics as their only reason for retention. While 40 percent of the parents of children retained early saw student immaturity as the only reason for retention, less than one-quarter of parents whose children were retained later stated that immaturity was the primary reason. These figures suggest that parents view early retention as a response to student immaturity and later retention as a response to academic difficulties. In addition, many parents saw both maturity and academic difficulties as important reasons for retention.

Exhibit 3.3
Reasons Cited for Retention by Parents of Retained Students
By Timing of Retention

	Maturity	Academic Difficulties	Maturity ONLY	Academic difficulties ONLY	Both maturity and academic difficulties
Early retention n=706	52.7%	49.8%	40.6%	37.4%	12.1%
First grade retention n=553	40.5	63.6	24.6	47.6	15.9

Note: There are 1,604 retained students in this sample. Of these, 706 were retained early, that is, prior to first grade. Placement in a pre-first or transitional first grade program was classified as early retention. Of the 706, there are 347 parents for whom we have questionnaires identifying the reasons for retention. Later retention includes children who were repeating first grade. There were 553 children who were retained later, and 409 parent questionnaires with responses about the reasons for retention. We look here only at 1992 parent data, which is the most complete of the various years of parent data collection. Therefore, we do not consider second grade retentions because they had not occurred by the spring of 1992. The question asked parents to circle all responses that applied. The percentages therefore do not sum to 100 percent.

Chapter Summary

- The timing of grade retention is related to child, family, and school characteristics.
- White children in rural and Western states who attend medium poverty schools are much more likely to be held back in kindergarten and in pre-first programs than they are at first grade or later.
- Children who are Black, who participate in Chapter 1, and who attend urban and high poverty schools in the South are much more likely to be retained in first grade or later than they are in kindergarten.
- Parents of children who are retained before first grade see immaturity as the major reason for retention while parents of children who are retained in first grade or later see academic difficulties as the main reason for retention.

IV. RETENTION AND STANDARDIZED TEST PERFORMANCE

This chapter examines the relationship between retention and student performance on standardized tests. Do students benefit academically from being retained in grade? We will examine the effectiveness of retention by utilizing three types of comparisons: 1) a comparison of retained children's performance to that of all never-retained children; 2) a comparison of retained children's performance to never-retained children with statistical adjustments for prior background factors and achievement; and 3) a comparison of retained children's performance to a matched control group of low performing students who were not retained. In these comparisons, particular attention is given to the students retained in 1992-1993 because of the availability of measures of achievement before, during, and after retention for this group. Both same-grade and same-age comparisons are presented.

We examine the relationship between grade repetition and performance on the reading and mathematics tests of the CTBS/4. In the *Prospects* study, the students in the first grade cohort were administered the CTBS at the start of first grade (in the fall of 1991), and in the springs of 1992, 1993, and 1994. Thus, the *Prospects* data provide a longitudinal record of student achievement over the years 1991 through 1994, grades 1 through 3.

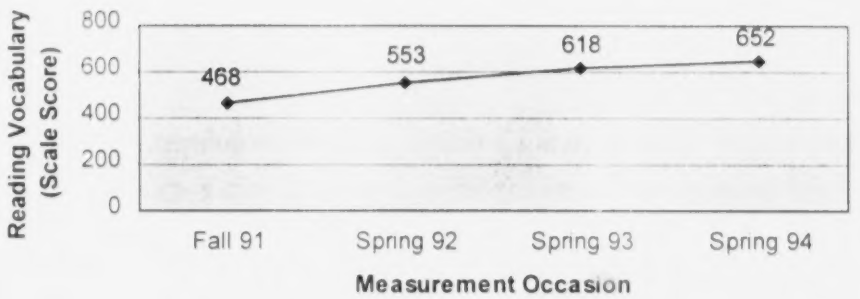
CTBS/4

Exhibit 4.1 displays the average reading vocabulary, reading comprehension, and mathematics scores and the corresponding standard deviations for assessments taken in the fall of 1991 (beginning of first grade) and in the springs of 1992, 1993, and 1994. The scale scores and the standard deviations are provided in this exhibit. Graphically, the nature of the longitudinal scores can be seen in Exhibit 4.2, which depicts the reading vocabulary tests at these four time points. From Exhibit 4.2 and from the means in Exhibit 4.1, we can see one important characteristic of the growth pattern. In all the tests, there is larger growth in grade 1 than there is in the other years. The grade 1 gain score may differ from the others because it is based on a fall to spring test cycle while the others are based on a spring to spring test cycle. In addition, there is often a larger growth in test scores when children first enter formal schooling and encounter instruction on specific skills that they might not have mastered prior to grade 1 and which are likely to be tested by the achievement test.

Exhibit 4.1
Average and standard deviation for CTBS reading vocabulary tests for *Prospects* first grade cohort

Test Occasion	Average Value	Standard Deviation
Reading Vocab-Fall 1991	467.6	63.1
Reading Vocab-Spring 1992	552.9	63.0
Reading Vocab-Spring 1993	618.2	64.9
Reading Vocab-Spring 1994	651.9	55.1
Reading Comp-Fall 1991	464.6	68.5
Reading Comp-Spring 1992	540.8	77.4
Reading Comp-Spring 1993	606.7	87.3
Reading Comp-Spring 1994	652.5	74.9
Math-Fall 1991	465.3	69.3
Math-Spring 1992	544.7	72.5
Math-Spring 1993	615.2	68.8
Math-Spring 1994	663.8	65.2

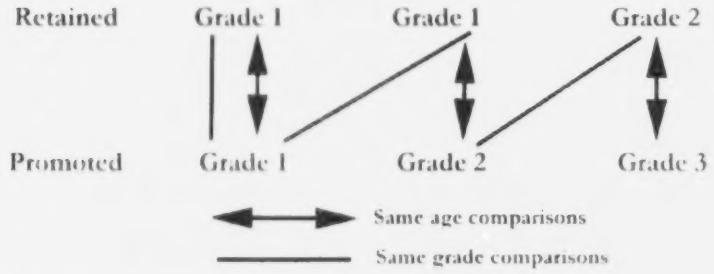
Exhibit 4.2
Reading Vocabulary Test Scores



Comparisons

Retention studies often fail to make clear the comparison groups that are used in assessing the effects of retention. First, there is the question of whether same-age or same-grade comparisons are being made. Same-age comparisons compare students when they are in different grades but are the same age, while same-grade comparisons compare children who are in the same grade but are (typically) different ages. Both same-age and same-grade comparisons are of value in understanding the effects of retention. When same-age comparisons are made, the test scores and other measures for the retained and promoted children are from the same years. When same-grade comparisons are undertaken, the retained children's test scores in the retained and subsequent years are compared to the data for the previous year for the promoted children. Exhibit 4.3 identifies the same-age and same-grade comparisons for children retained in the first grade in 1992-1993.

Exhibit 4.3
Same age and same grade comparisons



Retention studies employ a variety of comparison groups, such as contrasts to all never-retained children and to matched samples of students who were not retained. Comparisons of retained and matched non-retained children provide important evidence on how retained children are doing relative to *comparable* children who were not retained. Ideally, to isolate the effects of retention, comparable groups who were and were not retained could be assessed. Typically, however, it has not been feasible to create randomly assigned comparison groups of retained and promoted students.[1] Consequently, retention studies often rely upon statistical procedures to adjust for differences between retained and promoted students in their analyses.

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[1] Across the long history of retention studies, only three have employed random assignment: Cook (1941), Farley (1936) and Klene & Branson (1929).

An appealing strategy is to take advantage of naturally occurring variation in the variable of interest (retention) in creating comparison groups. Shepard and Smith (1986) capitalized on the fact that schools serving students from similar backgrounds differed in their retention policies and rates, thereby creating naturally occurring comparison conditions.

Three comparison strategies will be used in the analyses in this report: 1) comparisons of promoted and retained children; 2) comparisons of promoted and retained children, adjusting differences for the effect of student, family, and other factors; and 3) comparisons of non-retained low performing students to low performing retained children. This last comparison takes advantage of the fact that there are 13 schools in the *Prospects* sample that had no retentions during 1991-1994.

Same-Grade Comparisons

We first present same grade comparisons. These analyses compare the progress of the retained and promoted children when they are in the same grade and involves comparison of data from different years for the retained and promoted samples.

Retained and promoted students compared

The first contrast compares children who were retained in 1992-1993 in the first grade with those who were never retained. Children who were multiply retained are not included in this sample.

Exhibit 4.4 presents the achievement records of the retained and never-retained students. We look first at the initial test score differences between the children who will be retained and those who are never retained. The exhibit shows that the children who will be retained (in the next year) start the first grade 51.0 points lower on the reading comprehension subtest, 61.7 points lower on the reading vocabulary test, and 78 points lower on the math subtest. Expressed in terms of the pooled standard deviation of these two groups, these scores are from roughly three-quarters to over one standard deviation apart. Children who will be retained in grade 1 therefore start school at a serious disadvantage in comparison to those who will make normal progress from grades 1 through 3. This initial difference cannot be a consequence of retention, as these differences are observed prior to the event of retention.

At the end of the first grade (in 1992), the achievement gap between these two groups has increased appreciably. The gap in the reading comprehension score has grown from 51 points to 95 points, or from .74 of a standard deviation to 1.23 times a standard deviation. The gaps in the reading vocabulary and the math tests also increase appreciably over the first grade. At the end of the spring of 1992, the year prior to being retained, the average difference between these two groups is 1.25 standard deviation units.

Exhibit 4.4
Comparison of Retained and Never-retained Children
Same-grade Comparisons
Children Who Repeated First Grade in 1992-1993

	Group Age Grade Year NR 6 1 Fal 91 R 6 1 Fal 91			Group Age Grade Year NR 6 1 Spr 92 R 6 1 Spr 92			Group Age Grade Year NR 6 1 Spr 92 R 7 1 Spr 93			Group Age Grade Year NR 7 2 Spr 93 R 8 2 Spr 94		
	RC	RV	Math	RC	RV	Math	RC	RV	Math	RC	RV	Math
Not repeated n= 7091	469.6 (68.6)	473.2 (62.8)	472.3 (67.7)	552.4 (75.6)	562.4 (61.9)	554.7 (70.2)	552.4 (75.6)	562.4 (61.9)	554.7 (70.2)	620.7 (86.2)	629.5 (62.3)	626.0 (66.4)
Repeated n= 250	418.6 (56.8)	411.5 (48.5)	394.3 (58.9)	457.4 (55.7)	482.6 (41.3)	464.7 (55.1)	522.1 (52.1)	545.7 (47.2)	540.8 (52.0)	567.8 (59.9)	592.7 (37.6)	597.4 (49.1)
Avg difference	51.0	61.7	78.0	95.0	79.8	90.0	30.3	16.7	13.9	52.9	36.8	28.6
Pooled standard deviation	68.8	63.3	68.8	76.9	63.0	71.6	87.1	63.7	67.7	74.1	54.4	64.3
Standardized diff	.74	.97	1.13	1.23	1.26	1.25	.35	.26	.21	.71	.68	.45
Average effect size	.94			1.25			.27			.61		

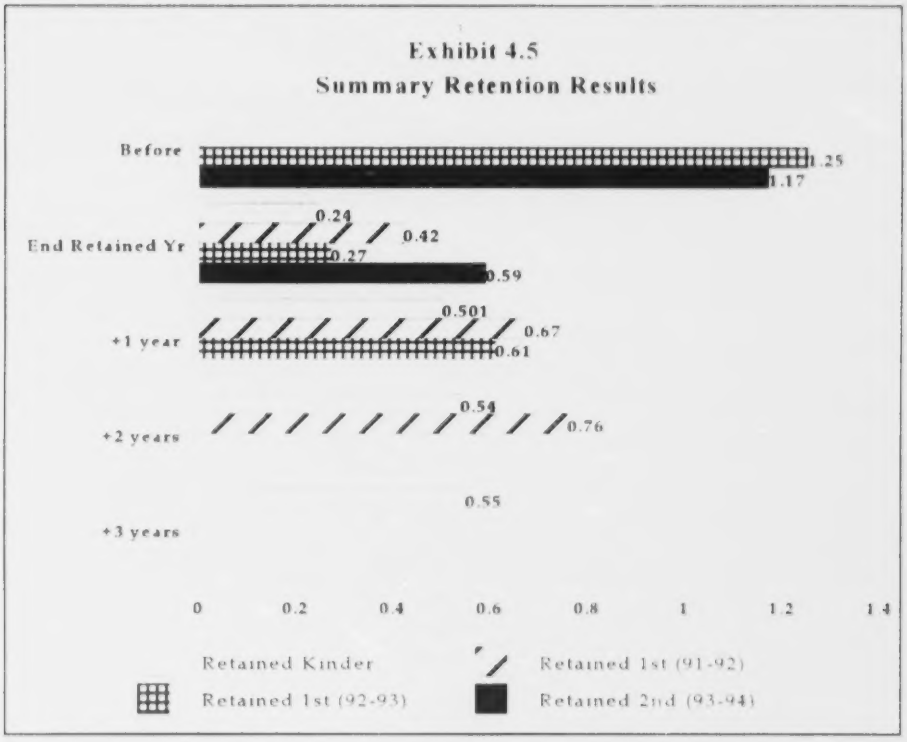
We turn now to comparisons of the retained children and regularly promoted children at the end of the year of retention. The performance at the end of grade 1 (the second time through grade 1 for the retained group) is compared to the performance of the never-retained children at the end of grade 1. We find that the achievement differences noted previously are dramatically reduced. The gap in reading comprehension, which was 95 points (1.23 sd), is reduced to 30 points (.35 sd). The gap in the reading vocabulary, which was 80 points (1.26)

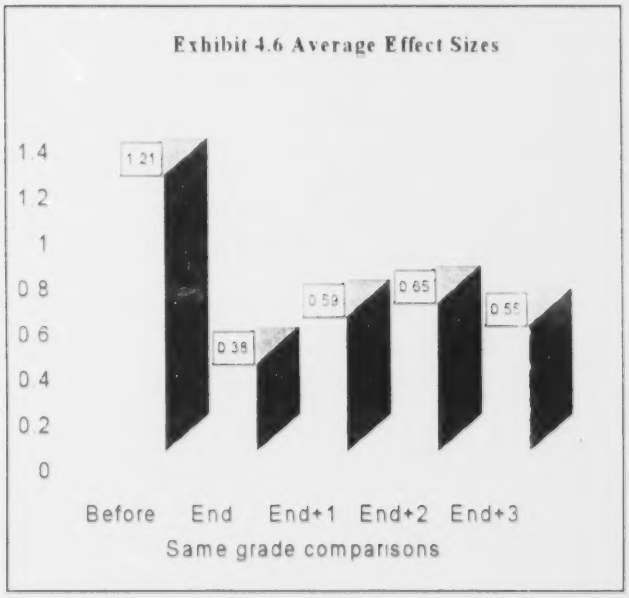
at the end of the first grade before retention, is now 16.7 points (.26 sd) in the year after retention. Similarly, the math score gap is reduced from 90 to 14 (from 1.25 sd. to .21 sd). We note that these gaps after retention are in fact smaller than the gaps with which the students started school (average of .27 in comparison to .94).

Continuing the comparison into grade 2, the gap between these two groups widens to .61. However, the gaps at the end of grade 2 remain smaller than those with which children began school or those at the end of the first grade prior to retention. Unfortunately, we do not have data on the continuing performance of these children into fourth grade or longer with which we could tell if the gap continues to widen and eventually returns to the initial level.

Appendix B contains the results of same-grade, unadjusted comparisons of children who repeated kindergarten, first grade in 1991-1992, and second grade. The results of these analyses are consistent with the results for the sample of first graders who repeated in 1992-1993. However, because these samples do not provide a complete series of the effects of retention (before, during, and after), we do not give them as much detailed emphasis as we do the sample retained in 1992-1993. Combining the results for the 1992-1993 retained group just presented in the text and the other three groups, presented in the Appendix, Exhibit 4.5 provides same-grade comparisons for all retained students. The data are combined into the categories "before," "during," and "after" retention.

Before being retained, the average difference between the retained and non-retained children is 1.21 standard deviations, a large difference. At the end of the retained year, the differences have been reduced, ranging from .24 to .59 for an average effect size of .38. These effect sizes are roughly one-quarter the size of the effect size obtained prior to retention. The categories +1 year, +2 years, and +3 years provide comparisons after the retention has been completed. These measures are generally larger than the ones at the end of the retained year, but remain about half the size of the before-retention measure. Exhibit 4.6 shows the average of these effect sizes before, during, and after retention. It indicates that there are large differences prior to the retained year; that retention, when using the same-grade criteria, does reduce this gap; but that the gap starts to widen again once the retained child is progressing through the grades.





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Retained and promoted students compared, adjusting for background differences

The comparisons presented so far do not take into account the effect of family background and prior achievement in the differences between retained and non-retained children. In this section, we recalculate the differences between the retained and promoted children, adjusting for the effects of student demographics, family factors, and prior test scores. This adjustment is accomplished by carrying out regression analyses. The beta coefficient for the retention variable indicates the magnitude of the difference between the retained and never-retained group controlling for background and other factors. The factors included in the statistical adjustment were prior test scores, family size, student gender, race and ethnicity, mother's education, income and occupation, presence of disability, health status, age, and retention status.

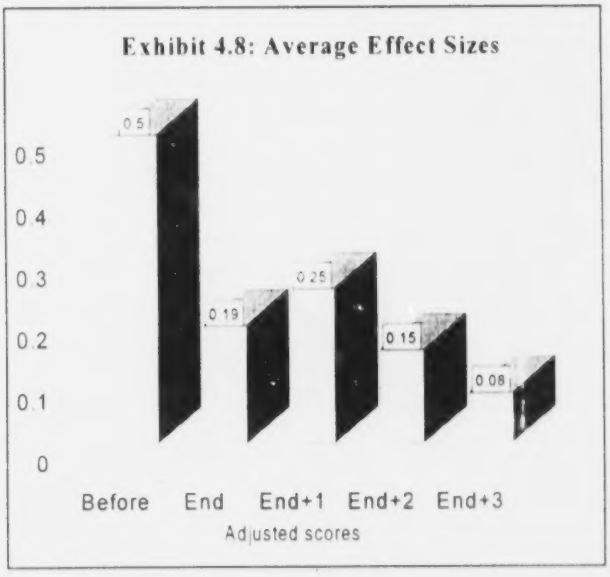
The differences between the retained and promoted children are reduced when we carry out the statistical adjustment. These adjusted mean differences are shown in Exhibit 4.7 (the fourth row of data). Overall, there are large reductions in the differences between the retained and the never-retained groups once these factors are controlled. However, even controlling for these factors, large differences in the performance of the children who will be retained and those who are regularly promoted remain (average of .52). Again, these differences are not due to retention as retention has not yet occurred.

Similarly, after retention, considering the effects of background and other factors, the gaps are reduced from an average of .27 to .13 and from .61 to .24, for the comparisons one and two years after retention, respectively. Appendix C presents the statistically adjusted differences for students retained in kindergarten, first grade (in 1991-1992), and second grade.

Exhibit 4.8 combines the relevant adjusted comparison results from the samples [retained in kindergarten, first grade (91-92), first grade (92-93), or second grade] into "before," "during," and "after" retention categories. The adjustment decreases the magnitude of the coefficients but the overall pattern remains. There are large achievement differences between retained and promoted children prior to retention. These differences are reduced by retention and do not return to their former size.

Exhibit 4.7
Comparison of retained and never retained children
Same grade comparisons
Children who repeated first grade in 1992-1993
Adjusted difference scores

	Group Age Grade Year NR 6 1 Spr 92 R 6 1 Spr 92			Group Age Grade Year NR 6 1 Spr92 R 7 1 Spr93			Group Age Grade Year NR 7 2 Spr93 R 8 2 Spr94		
	RC	RV	Math	RC	RV	Math	RC	RV	Math
Not repeated n= 7091	552.4 (75.6)	562.4 (61.9)	554.7 (70.2)	552.4 (75.6)	562.4 (61.9)	554.7 (70.2)	620.7 (86.2)	629.5 (62.3)	626.0 (66.4)
Repeated n= 250	457.4 (55.7)	482.6 (41.3)	464.7 (55.1)	522.1 (52.1)	545.7 (47.2)	540.8 (52.0)	567.8 (59.9)	592.7 (37.6)	597.4 (49.1)
Difference	95.0	79.8	90.0	30.3	16.7	13.9	52.9	36.8	28.6
Adjusted difference	57.8	37.5	17.2	11.9	15.2	1.26	18.8	17.3	12.2
Adjusted diff/standard deviation= effect size	.75	.59	.24	.14	.24	.01	.25	.32	.18
Average effect size	.52			.13			.24		



Low performing sample

There were 13 schools that had no retentions during the *Prospects* study. They did, however, have many students who were achieving at a relatively low level. Students in these schools that scored below the 40th percentile on the CTBS Reading Vocabulary sub-test at the end of grade 1 were identified as a low performing, not-retained comparison group. Of the children in the 13 schools, 118 scored below the 40th percentile. There were 225 of the total sample of 250 retained children who scored below the 40th percentile. These two groups comprised a "low performing" sample that varied in its retention history.

The sample in the non-retaining schools was more advantaged than the 1992-1993 retained sample. There were more white students, fewer black students, fewer students with health or disability problems, mothers with more formal education and higher occupational prestige, and students who were less likely to have attended Head Start. Although both samples consisted of children who scored at or below the 40th percentile, there were significant differences between the two groups in the standardized test results at the end of the first grade, prior to retention. Even when the differences are adjusted for background factors, significant differences remain between the two groups.

Alternative strategies for locating a matched sample were explored. However, the basic problem remained that there were few appropriate matches for the retained children. The children with very low test scores, for example, were typically retained, so finding a close match remained a difficulty. Consequently, although the achievement and other factors were not comparable, we utilized the low performing students in the thirteen non-retaining schools as our comparison group.

Exhibit 4.9 details the comparison between the low performing students who were retained and those who were not retained because they were enrolled in a school that did not retain students. At the end of the first grade (in 1992), the students who were going to be retained scored much lower on all achievement tests than did the students who were low performers but who were not going to be retained. The differences, expressed as effect sizes, were .63, .69, and .73 for reading vocabulary, reading comprehension, and math, respectively. These differences reflect the fact that despite the restriction of the sample to those scoring below the 40th percentile, the "no-retain" schools enrolled children with generally higher scores.

The second time through the first grade, however, the retained children outperformed their low performing counterparts who had gone on to second grade anyway. The effect sizes were .97, .48, and .63 for reading vocabulary, comprehension, and mathematics. At the end of the second grade, the retained students continued to outperform the low performing non-

retained students when they were in second grade, but the differences were reduced to roughly a third of a standard deviation.

Exhibit 4.9
Comparison of retained and never retained children
Same grade comparisons
Children who were retained in first grade in 1992-1993
Low performing sample

	NR 6 1 Spr92 R 6 1 Spr92			NR 6 1 Spr92 R 7 1 Spr93			NR 7 2 Spr 93 R 8 2 Spr94		
	Reading vocab	Reading comp	Math	Reading Vocab	Reading Comp	Math	Reading Vocab	Reading Comp	Math
Not Retained n=118	496.0	490.7	500.5	496.0	490.7	400.4	571.5	548.6	571.4
Retained n=225	474.2	451.0	458.3	540.2	517.2	536.2	589.0	563.1	592.8
Difference	21.8	39.7	42.2	-44.2	-26.5	-35.7	-17.5	-14.4	21.5
Adj Diff	15.8	12.4	20.7	-48.7	-50.7	-51.6	-39.4	-40.6	49.8
Diff std	.63	.69	.73	-.97	-.48	-.63	-.41	-.24	.43
Adj Diff std	.45	.22	.35	-1.07	-.93	-.92	-.91	-.69	.99
Average effect size	.34			-.97			-.87		

Low performing sample, adjusted differences

After statistical adjustments are made to control for background and other factors, the differences between the retained and non-retained become -.34, .97, and .87 for before, during, and after retention comparisons. The same-grade comparisons of low performing children in schools that do and do not retain therefore indicate a positive effect for retention in the year of retention and in the year after retention. Exhibit 4.9 provides these results.

Summary of same-grade comparisons

Three comparisons were carried out:

1) comparison of promoted and retained children,

2) comparison of promoted and retained with statistical controls for background and other factors, and

3) comparison of low performing students who are and are not retained.

Across the first two comparisons, there was a pattern of large achievement differences favoring promoted over retained children prior to retention. This difference was significantly reduced in the year of retention and in the following year(s) did not return to its initial size. This pattern was true whether one was looking at retention in kindergarten or first or second grade. Same-grade comparisons between promoted and retained students suggest that at the cost of a year, retention decreases the difference between promoted and retained students.

The same-grade comparisons between low performing students who were retained and those who were not show a similar pattern of improvement of position of the retained children in the year of retention and afterwards. However, we caution that we were unable to create a truly equivalent comparison group for these analyses. The non-retained group was in fact more advantaged than the retained group.

Same-Age Retention Comparisons

Retained and promoted children compared

The same-grade comparisons suggest that the performance of retained children, in comparison to their performance prior to retention, is improved after retention. However, we note again that these gains come at the cost of spending a year longer to get to not quite the same place. The same-age comparisons, considered next, address the question of how students perform relative to their same-age peers. Here we describe the results for students who repeated the first grade in 1992-1993.

Exhibit 4.10 contains same-age comparisons of children who repeated first grade in 1992-1993 with children who did not repeat. The gap prior to retention, when students were the same age and grade, was 1.25 standard deviation units. Looking at the students at the same age (modal age 7 and 8), we see that the average effect size is virtually identical, being 1.24 and 1.26 for these two ages. Thus, in terms of comparisons with their same age mates, the retained children have not made progress at the end of the retained year. The gap between the retained and non-retained child remains the same at age 8 as well.

Exhibit 4.10
Comparison of retained and never retained children
Same age comparisons
Children who repeated first grade in 1992-1993
Unadjusted difference scores

	Group Age Grade Year NR 7 2 Spr 93 R 7 1 Spr 93			**Group Age Grade Year** NR 8 3 Spr 94 R 8 2 Spr 94		
	RC	RV	Math	RC	RV	Math
Not repeated n= 7091	620.7 (86.2)	629.5 (62.3)	626.0 (66.4)	665.5 (72.4)	661.4 (53.4)	674.9 (63.1)
Repeated n= 250	522.1 (52.1)	545.7 (47.2)	540.8 (52.0)	567.8 (59.9)	592.7 (37.6)	597.4 (49.1)
Average difference	98.6	83.8	85.2	97.7	68.7	77.5
Pooled standard deviation	87.1	63.7	67.8	74.1	54.4	64.3
Standardized diff= effect size	1.13	1.32	1.26	1.32	1.26	1.21
Average effect size	1.24			1.26		

Retained and promoted compared, adjusted for background differences

When adjustments for background factors are made (see Exhibit 4.11), we see that the differences before, during, and after retention are very similar. The same age comparisons, therefore, suggest that retention does not alter the differences between retained and promoted children. Children who are retained, when compared to their same-age mates who are not retained, maintain the same difference before, during, and after retention. The same-age comparisons, therefore, suggest that retention does not affect the gap between the retained and the promoted child.

Exhibit 4.11
Comparison of retained and never retained children
Same age comparisons
Children who repeated first grade in 1992-1993
Adjusted difference scores

	Group Age Grade Year NR 7 2 Spr 93 R 7 1 Spr 93			**Group Age Grade Year** NR 8 3 Spr 94 R 8 2 Spr 94		
	RC	RV	Math	RC	RV	Math
Not repeated n= 7091	620.7 (86.2)	629.5 (62.3)	626.0 (66.4)	665.5 (72.4)	661.4 (53.4)	674.9 (63.1)
Repeated n= 250	522.1 (52.1)	545.7 (47.2)	540.8 (52.0)	567.8 (59.9)	592.7 (37.6)	597.4 (49.1)
Average difference	98.6	83.8	85.2	97.7	68.7	77.5
Adjusted difference	41.1	39.3	41.8	50.0	32.1	34.2
Pooled standard deviation	87.1	63.7	67.8	74.1	54.4	64.3
Adjusted/std	.47	.62	.62	.67	.59	.53
Average effect size	.57			.59		

Low performing sample

Exhibit 4.12 compares low performing retained and promoted students at the same age. In the spring of 1992, both sets of students complete grade 1. The next year, the retained students finish grade 1 again. The Spring 1993 comparisons, then, are between first and second graders. Prior to retention, the retained children score about one-third of a standard deviation below the non-retained. At the end of the next year, when the retained children complete grade 1 again, and the promoted children complete Grade 2, the difference between the two groups is about .30 standard deviation units. The difference in 1993 (a comparison of third and second graders) is about .20 standard deviation units. These same-age comparisons indicate that retention did not have a negative effect. The same-age comparisons suggest little effect of retention for low performing students.

Exhibit 4.12
Comparison of retained and never retained children
Same age comparisons
Children who were retained in first grade in 1992-1993
Low performing sample

	NR 6 1 Spr92 R 6 1 Spr 92			NR 7 2 Spr93 R 7 1 Spr93			NR 8 3 Spr94 R 8 2 Spr94		
	Reading vocab	Reading comp	Math	Reading Vocab	Reading Comp	Math	Reading Vocab	Reading Comp	Math
Not Retained n=118	496.0	490.7	500.5	571.5	548.6	571.4	616.5	612.0	623.4
4Retained n=250	474.2	451.0	458.3	540.2	517.2	536.2	589.0	563.1	592.8
Difference	21.8	39.7	42.2	31.3	31.4	35.2	17.5	14.5	30.5
Adj Diff	15.8	12.4	20.7	17.3	16.8	12.2	14.5	28.3	6.00
Diff/std	.63	.69	.73	.63	.56	.65	.70	.80	.63
Adj Diff/ std	.45	.22	.35	.35	.30	.22	.37	.46	.12
Average effect size	.34			.29			.20		

Discussion

To a large degree, whether retention is viewed to have positive or negative effects depends upon the basis of comparison that is used. Same age comparisons tell a different story than do same-grade comparisons (see Exhibit 4.13). The same-age comparisons suggest no benefit to retention and, given the possible independent side effects of being older in grade, raise serious questions about cost/benefits of retention. Same-grade comparisons, on the other hand, suggest that there are possible benefits to the retained child. Viewed in terms of growth patterns before and after retention, the same-grade comparisons generally show that children reduce the achievement gap with which they started school and make appreciable strides. When same-grade comparisons are used, retention appears to be a catching-up year that benefits children two or even three years afterwards.

We pay specific attention to the same-grade comparisons because these are the comparisons that are probably most relevant to teachers and parents. That is, parents and teachers are probably most interested in how the retained child does in comparison, to his classmates given the retention, not to his former classmates in another grade.

We explored the nature of the relationship between retention and achievement using three different comparison strategies: unadjusted comparisons, adjusted comparisons, and matched comparison groups. The analyses indicate that there are large differences between retained and promoted children immediately prior to retention, and that at the end of the retained year, the differences are considerably reduced. In subsequent years, the differences begin to widen, but they are nowhere near as large as they were prior to retention. According to these results, then, retention may be considered to have a positive effect, although at the cost of a being a year behind.

These results, then, are somewhat at odds with the verdict on retention offered by the educational research community over the last twenty years or so. Why might that be the case? The primary methodological difference between this study and prior studies is the ability in the present study to make comparisons of retained student's performance to non-retained children *before, during, and after retention*. In particular, earlier studies of retention have not been able to contrast the child's performance relative to his peers *prior* to retention compared to his relative performance *after* the event of retention. In most cases, studies have looked at the achievement differentials at the end of the year of retention, concluded that retained students were still behind, and therefore concluded that retention was not effective. Even studies that look longitudinally at the effect of retention stress that retention is not effective because the gap between retained and promoted starts to widen after the retained year. However, even with the widening gap, the gap between retained and promoted children after retention is not as large as it was before retention.

Chapter Summary

- Same grade comparisons of regularly promoted and retained children indicate positive effects for retention in the year of retention, with decreasing effectiveness in subsequent years. Before retention, the average standardized difference between these two groups was 1.21; at the end of the year of retention, the difference was .38. In the next years, the difference between these two groups averaged about .60 of a standard deviation.
- When these comparisons are adjusted for family background factors and prior test scores, the differences shrink appreciably. However, the general pattern of large differences between retained and never-retained, followed by smaller differences after retention, was found as well. Prior to retention, the adjusted effect size was .50 of a standard deviation

at the end of the year of retention, the effect size was .19. In the following years, the effect size became .21.

- Same-grade comparisons of low performing students who are and are not retained indicated a strong positive effect for retention in the year of retention which was substantially reduced in the year following.
- The same-age comparisons generally did not yield positive results for retention. The effects of retention vary with the basis of comparison utilized.

Exhibit 4.13
Summary of retention effects by study design feature

Comparison Group	Same Grade	Same Age
Never retained compared to ever retained	On average, the gap between never-retained and retained children is reduced from 1.25 standard deviation units (sd) prior to retention to .38 sd after retention. In the years following retention, the gap widens to roughly .6 sd. Retention lessens the gap between never retained and retained. The gap starts to widen after retention. However, the gap 3 years after retention is about half of what it was prior to retention.	Before children are retained, the students to be retained are 1.1 sd below the regularly promoted children. At the same ages after retention, the differences are 1.37, 1.40, and 1.20 sd. The same-age comparisons do not favor retention.
Never retained and retained compared after statistically adjusting for factors that influence retention and attainment	The difference between the never-retained and retained children is .52 before retention. This difference is reduced to .19 sd at the end of the year of retention and the average difference after retention is .16 sd. Much of the difference between retained and non-retained children is related to background factors. However, after statistically adjusting the differences for these background factors, the same pattern of reduction of large initial differences as a result of retention is found.	Retention does not affect the gap between never-retained and retained children.
Low performing children who were and were not retained	Large differences in the year of retention favoring retained students.	Same-age comparisons show that there is little change in the difference between retained and promoted children after retention in comparison to their differences prior to retention.

V. Retention and Social and Emotional Development

The previous chapter focused on the relationship of retention and academic achievement. This chapter examines the connection between retention and social and emotional measures. In many instances, children are held back in grade to foster emotional and social development, especially if they are deemed "immature." Many practitioners and parents argue that holding "young-for-their-age" children back a year gives them the "gift of time" which allows them to be ready for school. Retention in the early elementary grades, in particular, is often undertaken to benefit children's social and emotional growth, perhaps to an even greater extent than to bolster their academic progress.

On the other hand, many argue just the opposite to be true — that grade repetition is harmful for children's social and emotional development, being particularly damaging to their self-image and academic self-concept. According to this argument, failing a grade is a stressful and stigmatizing event with long-term consequences.

There are, then, two contrary conclusions regarding the effects of retention on social and emotional development — in one view, not ready or immature children are thought to benefit from the "gift of time;" in the other view, retention is thought to harm social development by stigmatizing the retained child.

Little relevant research has examined this question: Does retention harm or benefit social and emotional development? Two particular exceptions are noted. Shepard and Smith (1989) examine the effects of retention on the attentive behavior and social maturity of retained kindergarten children. They conclude that "more than 40 percent of the retained children were rated as below average in social maturity by their first grade teachers, despite the fact that they were now a year older than normal first graders" (Shepard & Smith, 1989, p. 91). In a second study that looked at the effects of retention on social and emotional factors, Alexander and Entwisle (1995) find that repeaters have more negative academic self-images, but argue that these poor self-images were there prior to the actual event of retention.

In addition, little research has looked at the social and emotional effects of retention using a broad-based, national data set. Using such a data set is important for addressing this question. It is possible that retention has different effects on children's social and emotional development depending upon the conditions under which children are retained. The extent of stigmatization may depend upon such factors as the number of children who are retained. For example, in Baltimore City, where retentions were widely used during the early 1980s when Entwisle and Alexander undertook their study, it is possible that retention did not stigmatize

children simply because there were so many children (up to one-half by the third grade) who were held back. In that context, where every other child is held back, retention may scarcely be noticed, much less an event that stands out.

Methods and Data

In the spring of each survey year, the regular classroom teacher completed a student profile for each child in the *Prospects* study who was in their classroom. Three rating scales were constructed from the items in this student profile by factor analysis.[1] The rating scales pertained to areas of cooperation, participation, and attention/motivation. Appendix D contains the relevant questions in the student profile.

The specific variables that were incorporated in each scale were:

Cooperation - compliance	*Attention - motivation*	*Participation - interest*
• gets along with teachers • has respect for authority • is honest most of the time • is willing to follow rules • is happy most of the time • disrupts the class • makes friends easily • enjoys school	• attention span • pays attention in class • is motivated to learn • can concentrate for ½ hour • works hard at school • cares about doing well • is a creative person	• asks questions in class • participates in class • asks for extra help

Each variable was scored on a three-point scale, coded such that a "1" indicated a low value and a "3" indicated a high value. For example, in the factor related to participation and interest, a "1" indicated that the student did not frequently ask questions in class while a "3" indicated he frequently did so. The average of the items present in the scale was used as the measure. In the scales used here, missing data was imputed. Imputation was carried out for approximately 12.3% of the cases in the 1992 data, 16.3% of cases in the 1993 data, and 15.3% of cases in the 1994 data.

Exhibit 5.1 provides the means and standard deviations for the students on the three measures in the spring of 1992, 1993, and 1994. It is important to note that different teachers

[1] The details of the scale construction are found in the Technical Appendix to the Prospects Final Report (Puma et al., 1997).

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are carrying out the ratings in each year. There is a general trend — the average value of the scales declines over the three-year period. This trend may reflect the fact that student behavior actually is more negative as children get older. Alternatively, the declining rankings may reflect the fact that teachers of older students may have different standards for classroom behavior against which they rank children. We are primarily interested in a child's relative, not absolute ranking. Accordingly, we transform each child's score to a *z* score, which is the deviation from the yearly mean divided by the relevant standard deviation. Consequently, the average value and standard deviation for all scales at the three time points are 0 and 1, respectively. These *z* scores are used in the analyses that follow.

Exhibit 5.1

Average and standard deviations for attention, participation and cooperation scales at grades 1, 2 and 3[2] (N=9240)

	Mean	Standard Deviation
Attention 1	2.30	.57
Attention 2	2.27	.57
Attention 3	2.20	.58
Participation 1	2.00	.54
Participation 2	1.99	.56
Participation 3	1.93	.56
Cooperation 1	2.61	.42
Cooperation 2	2.58	.43
Cooperation 3	2.55	.44

Retention and Behavioral Ratings

Exhibit 5.2 compares the *z* scores for all never-retained and retained children. There is a strong relationship between retention and teacher ratings of cooperation, participation, and

[2] Missing data was imputed for the behavioral measures. See text for discussion of the extent of missing data.

attention. Retained children are rated significantly lower by their teachers than promoted children on each behavioral measure at each time point ($p < .001$).

We are interested in learning if there are changes in the differences between retained and promoted children as a result of retention. Are children who are retained rated more favorably after retention than they were prior to retention? Does retention improve their standing *vis a vis* their promoted peers? We address this question using the sample of children who repeated first grade in 1992 and 1993 because this sample enables comparisons before, during, and after retention.[3] Three sets of comparisons are presented. The first set (unadjusted sample comparisons) compares ratings for retained and promoted children when they are in the same grade and are the same age. The next set (adjusted comparisons) compares these same children after adjustments have been made for the effect of background and other factors on the differences between retained and promoted students. The final set compares retained and promoted students in the low performing sample.

Unadjusted sample comparisons

How were the retained students rated in comparison to non-retained and younger students who were in the same grade? Exhibit 5.3 provides this comparison. First, prior to retention, the differences between the retained and promoted children on all three measures are statistically significant. Following retention, using the same-grade comparison, the differences remain statistically significant, but they are smaller than they were prior to retention. The differences between attention/motivation measures before retention and immediately after are reduced the most of the three measures. The same-grade comparisons of the unadjusted sample indicate, then, that all ratings are affected by retention, and that differences in ratings of attention/motivation before and after retention show the greatest change.

Exhibit 5.4 compares ratings when the retained and promoted children were the same age, but in different grades (in 1993 and 1994). The same-age comparisons are almost identical to the same-grade comparisons, showing that differences in ratings of attention motivation between retained and never-retained children decrease markedly after retention and that cooperation and participation follow a similar but not as dramatic pattern.

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[3] Appendix E reports analyses for the other retained children: those retained in kindergarten, those retained in 1991-1992, and those retained in 1993-1994.

Adjusted sample comparisons

The differences between the retained and non-retained students just discussed incorporate the effects of background and demographic factors as well. After statistically controlling for gender, race/ethnicity, family background, and school characteristics, the same-age comparisons and same-grade comparisons still show the large differences prior to retention being reduced in the year of retention. Exhibit 5.5 provides the same-grade comparisons with these statistical adjustments made. This exhibit shows that after statistical adjustments are made for the effect of background and other factors on the behavioral measures, there are still large differences between the retained and to be retained children in the year prior to retention (-.823, -.414, and -.204 for attention, cooperation, and participation respectively). In the year in which the children are retained in grade 1, these differences are reduced dramatically for attention (from .823 to .117) and moderately for cooperation (.414 to .237). For participation, the differences in the year of retention are no longer significant. In general, the same-grade comparisons of adjusted differences show that the differences in ratings of attention, cooperation, and participation between the retained and never-retained children are reduced after retention.

The same-age comparisons (see Exhibit 5.6) show a somewhat different pattern. Before retention, the unadjusted difference in attention rating was -1.37. After adjusting for background differences, this difference is -.823 ($p<=.000$). In the year of retention, the difference decreases markedly to -.096 (NS) and then rises to -.226 ($p<.001$) in the next year. In the same grade comparison, then, the difference between the retained and promoted children in participation and attention is not significant after retention.

Low performing sample

Same-grade and same-age comparisons were carried out for the retained and non-retained students in the low performing sample. These statistics are reported in Exhibits 5.7 and 5.8. In these exhibits we also adjust the differences for student background and other characteristics because the retained and promoted groups were not equivalent on these factors. Looking at adjusted differences in Exhibit 5.7, the same-grade comparisons indicate that teachers rate the to-be-retained children lower than the low-performing promoted children on attention prior to retention, but that there are no significant differences after retention (p values .000, .188, and .215 for differences of -.66, +.17, and -.17). The differences in cooperation and participation are not statistically significant either before or after retention.

The same-age comparisons (see Exhibit 5.8) follow the same pattern as the same-grade results.

Exhibit 5.2[4]
Behavioral Measures by Retention Status

		ATTEN 1	ATTEN 2	ATTEN 3	PARTIC 1	PARTIC 2	PARTIC 3	COOP 1	COOP 2	COOP 3
Not retained	**Mean**	.161	.144	.127	.073	.074	.066	.124	.122	.104
	N	7091	7091	7091	7091	7091	7091	7091	7091	7091
	Std. D	.946	.965	.976	.981	.988	.990	.940	.943	.962
Retained	**Mean**	-.619	-.559	-.493	-.269	-.270	-.232	-.493	-.463	-.384
	N	1604	1604	1604	1604	1604	1604	1604	1604	1604
	Std. D	.998	.963	.958	1.034	1.00	1.00	.958	1.08	1.05
Total	**Mean**	.017	.014	.013	.001	.015	.017	.014	.014	.014
	N	8695	8695	8695	8695	8695	8695	8695	8695	8695
	Std. D	1.00	1.00	1.00	.999	1.00	.999	1.00	.999	.999

[4] All differences statistically significant at p=.001. Z scores presented in this table.

Exhibit 5.3
Comparison of retained and never-retained children
Same-grade comparisons
Children who repeated first grade 1992-1993

	Group Age Grade Year NR 6 1 Spr92 R 6 1 Spr92			**Group Age Grade Year** NR 6 1 Spr 92 R 7 1 Spr 93			**Group Age Grade Year** NR 7 2 Spr 93 R 8 2 Spr 94		
	Atten	Coop	Partic	Atten	Coop	Partic	Atten	Coop	Partic
Never retained (NR) n = 7091	.16	.12	.07	.16	.12	.07	.14	.12	.07
Retained 92-93 (R) n = 250	-1.21	-.67	-.31	-.51	-.50	-.21	-.62	-.42	-.33
Difference NR-R (p for difference)	1.37 .000	.79 .000	.38 .000	.67 .000	.63 .000	.29 .032	.76 .000	.54 .000	.40 .000
Prior difference-current difference	-	-	-	.70	.16	.09	.61	.25	-.02

C1

C2

Exhibit 5.4
Comparison of retained and never-retained children
Same-age comparisons
Children who repeated first grade 1992-1993

	Group Age Grade Year NR 6 1 Spr92 R 6 1 Spr92			Group Age Grade Year NR 7 2 Spr 93 R 7 1 Spr 93			Group Age Grade Year NR 8 3 Spr 94 R 8 2 Spr 94		
	Atten	Coop	Partic	Atten	Coop	Partic	Atten	Coop	Partic
Never retained (NR) n= 7091	.16	.12	.07	.14	.12	.07	.13	.11	.07
Retained 92-93 (R) n =250	-1.21	-.67	-.31	-.51	-.50	-.21	-.62	-.42	-.33
Difference NR-R (p for difference)	1.37 .000	.81 .000	.38 .000	.65 .000	.62 .000	.28 .000	.75 .000	.53 .000	.40 .000
Prior difference-current difference	-	-	-	.72	.19	.10	-.10	.09	-.02

Exhibit 5.5
Comparison of retained and never-retained children
Same-grade comparisons
Adjusted difference scores[5]
Children who repeated first grade 1992-1993

	Group Age Grade Year NR 6 1 Spr92 R 6 1 Spr92			**Group Age Grade Year** NR 6 1 Spr 92 R 7 1 Spr 93			**Group Age Grade Year** NR 7 2 Spr 93 R 8 2 Spr 94		
	Atten	Coop	Partic	Atten	Coop	Partic	Atten	Coop	Partic
Not retained (NR) n=7091	.16	.12	.073	.16	.13	.07	.14	.12	.07
Retained (R) n=250	-1.21	-.67	-.31	-.21	-.50	-.21	-.62	-.42	-.33
Difference (NR-R)	1.37	.80	.38	.37	.63	.29	.76	.54	.40
Adjusted difference p for adj diff	.82 000	.41 .000	.20 .000	.18 .034	.24 .001	.10 .105	.21 .000	.12 .034	.14 .029
Prior difference-current difference	-	-	-	.64	.17	.10	.61	.29	.06

C5

C5

[5] See Appendix F for calculation of adjusted differences.

Exhibit 5.6
Comparison of retained and never-retained children
Same-age comparisons
Adjusted difference scores[6]
Children who repeated first grade 1992-1993

	Group Age Grade Year NR 6 1 Spr92 R ,6 1 Spr92			Group Age Grade Year NR 7 2 Spr 93 R 7 1 Spr 93			Group Age Grade Year NR 8 3 Spr 94 R 8 2 Spr 94		
	Atten	Coop	Partic	Atten	Coop	Partic	Atten	Coop	Partic
Never retained (NR) N=7091	.16	.12	.07	.14	.12	.07	.13	.11	.07
Retained (R) n=250	-1.21	-.67	-.31	-.51	-.50	-.21	-.62	-.42	-.33
Difference	1.37	.80	.38	.65	.62	.28	.75	.53	.40
Adjusted Difference	.82 .000	.41 .000	.20 .001	.10 .088	.20 .001	.02 .839	.23 .000	.13 .035	.16 .014
Prior difference-current difference	-	-	-	.72	.21	.18	.59	.28	.04

[6] See Appendix I for calculation of adjusted differences

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Exhibit 5.7
Same grade comparisons
Low performing sample
Unadjusted and adjusted comparisons

	Group Age Grade Year NR 6 1 Spr92 R 6 1 Spr92			**Group Age Grade Year** NR 6 1 Spr 92 R 7 1 Spr 93			**Group Age Grade Year** NR 7 2 Spr 93 R 8 2 Spr 94		
	Atten	Coop	Partic	Atten	Coop	Partic	Atten	Coop	Partic
Never retained (NR) n=118	-.43	-.34	-.23	-.43	-.34	-.23	-.28	-.23	-.19
Retained 92-93 (R) n=225	-1.27	-.75	-.33	-.60	-.60	-.33	-.68	-.49	-.15
Difference NR-R (p for difference)	.84 .000	.41 .000	.10 .418	.17 .090	.26 .022	.10 .996	.40 .000	.26 .031	-.04 .192
Adjusted difference (p for difference)	.66 .000	.30 .066	.19 .261	-.17 .188	.01 .928	.16 .316	.17 .215	.09 .952	-.13 .393
Prior difference-current difference	-	-	-	.83	.29	.03	.49	.21	.32

Exhibit 5.8
Same-age comparisons
Low-performing sample
Unadjusted and adjusted comparisons

	Group Age Grade Year NR 6 1 Spr92 R 6 1 Spr92			Group Age Grade Year NR 7 2 Spr 93 R 7 1 Spr 93			Group Age Grade Year NR 8 3 Spr 94 R 8 2 Spr 94		
	Atten	Coop	Partic	Atten	Coop	Partic	Atten	Coop	Partic
Never retained (NR) n=118	-.43	-.34	-.23	-.29	-.24	-.19	-.18	-.12	-.09
Retained 92-93(R) n=225	-1.27	-.75	-.33	-.60	-.60	-.24	-.68	-.49	-.34
Difference NR-R (p for difference)	.84 .000	.41 .000	.10 .418	.31 .002	.36 .003	.05 .716	.50 .000	.37 .001	.25 .003
Adjusted difference (p for difference)	.67 .000	.30 .066	.19 .261	.08 .598	.12 .433	.19 .233	.26 .053	.13 .384	.34 .027
Prior difference-current difference	-	-	-	.59	.19	.00	.41	.17	-.15

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These comparisons suggest that ratings of attention/motivation, participation and cooperation are related to retention status, but that the comparison sample used affects the strength of the connection. Attention/motivation is connected most consistently across the various samples to retention status. Whether the comparison is made on the basis of same grade or same age, across the three samples, being retained in grade is associated with an improvement in teacher ratings of attention/motivation. Exhibits 5.9 and 5.10 summarize the results.

Discussion

This chapter examined the role of retention in the social and emotional development of young children. It examined how teachers rated the attentiveness, cooperation, and participation of retained and promoted children prior to and after retention. Same-age and same-grade comparisons were made for retained and promoted children, retained and promoted children adjusting for background characteristics, and low performing retained and promoted children. In general, these comparisons showed that retained students were less favorably rated by their teachers than were promoted students prior to retention. Less favorable ratings were consistently found for ratings of attention/motivation across the three samples.

After retention, whether using same-age or same-grade comparisons, the earlier differences between promoted and retained children were reduced appreciably. Most dramatic decreases were seen with respect to attention, in which the after-retention differences were less than half the before-retention differences. In the case of the low performing sample, which most closely resembles a control group of matched children, the attention measures were significantly different prior to retention and not different after retention. These results across the comparisons suggest a benefit for children who are retained in how their teachers rate their attentive behavior. We note that these teacher ratings are not the same, however, as students' own ratings of their academic competence and abilities. Such measures were obtained in *Prospects* for the third and seventh grade cohorts, but not the first grade cohort. However, as noted previously, most retentions occur in the early grades. Because we are interested in addressing the effects of retention by targeted comparisons before, during, and after retention, the teacher ratings of children provide our best evidence of the effects of retention on social and emotional development with the *Prospects* data.

Exhibit 5.9
Summary of comparisons of effect of retention on social and emotional development

Sample	Same age or same grade	General Finding	Difference score before retention - difference score after retention		
			Atten	Coop	Partic
Unadjusted comparisons of those retained in 92-93 in first grade vs never-retained	Same grade (Exhibit 5.3)	Significant differences between NR and R before retention favor promoted children. Significant differences favoring promoted children remain after retention. However, retention reduces the differences between the two groups. Attention ratings relative to same-grade peers are improved more than the ratings of cooperation and participation.	.70	.16	.09
	Same age (Exhibit 5.4)	Significant differences between NR and R prior to retention remain after retention. Attention ratings are affected to a greater extent than are ratings of cooperation and participation.	.72	.19	.10
Adjusted comparison of those retained in 92-93 in first grade and those never retained	Same grade (Exhibit 5.5)	After adjusting for background characteristics, the difference between NR and R students are reduced in comparison to their non-adjusted levels. However, the adjusted differences, with one exception (participation in grade 1) remain statistically favorable to the promoted group. The ratings of attention, in comparison to cooperation and participation, show the largest improvement after retention.	.64	.17	.10
	Same age (Exhibit 5.6)	Significant differences prior to retention in all three measures. In the year of retention, attention and participation are not significantly different. In the next year, however, the two groups are statistically different on all three measures. Attention differences change the most.	.72	.21	.18
Low performing sample (adjusted)	Same grade (Exhibit 5.7)	Attention ratings of NR and R groups are significantly different prior to retention, but participation and cooperation are not. There are no significant differences on any measures between the two groups after retention.	.83	.29	.03
	Same age (Exhibit 5.8)	Attention - significantly different prior to retention, participation and cooperation are no different. No significant differences in any of the behavioral measures after retention.	.59	.19	.00

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Exhibit 5.10
Summary of significant differences before and after retention

	Before			After		
Comparison	Attention	Cooperation	Participation	Attention	Cooperation	Participation
Unadjusted comparisons (same grade same age)	yes yes	yes yes	yes yes	yes yes	yes yes	yes yes
Adjusted comparisons (same grade same age)	yes yes	yes yes	yes yes	yes no	yes yes	no no
Low performing sample (same grade same age)	yes yes	no no	no no	no no	no no	no no

Exhibit shows the pattern of statistically significant ($p < .05$) results for same-grade and same-age comparisons of three samples. The "yes" indicates significant difference. The same-grade comparison is listed first in the column with the same-age result underneath.

Chapter Summary

- This chapter focused on the differences between retained and promoted children in teacher ratings of attention, cooperation, and participation. Same-grade and same-age comparisons were presented for three comparison groups: never-retained children in comparison to first grade repeaters, never-retained children compared to first grade repeaters after adjusting for differences in background characteristics, never-retained low performing children compared to first grade repeaters with comparable low performance.

- Patterns of differences between retained and promoted children varied somewhat with the sample used and whether same-age or same-grade comparisons were being made. Differences in ratings of attention/motivation to learn, however, were consistently observed prior to retention. These differences were also consistently reduced after retention across the various samples and comparisons made. The differences between ratings of cooperation and participation prior to and following retention were not as striking or as consistent as those for attention/motivation.

VI. What Is Retention?

This chapter compares several features of classrooms that students attend in the year they "fail" first grade and in the year they repeat first grade. The purpose here is to learn the extent to which students have similar or different experiences in the two times in first grade. We identified the teachers of the retained students in 1992 and 1993 and compared their classroom organization and instructional practices. Because the teacher identification codes were not maintained longitudinally, it is not possible to learn how many children repeated the grade with the same teacher.

How different are first grade classrooms for children who are repeating a grade ? Do students receive something instructionally different or are they just recycled through first grade?

Unfortunately, due to changes in the teacher questionnaire between 1992 and 1993, many of the most important issues about instructional approaches cannot be addressed. We can, however, look at several features of classroom organization and format. See Exhibit 6.1 for a summary.

Classroom Features in Retained and Failed Year

Teacher experience

The average years of teacher experience for first grade teachers in 1991-1992 was 13.6 years. The students who were retained had teachers in the retained year with comparable teaching experience, being 14.1 years. The number of years teaching in the current school was also similar for the teachers in the failed and repeated year, being 9.1 and 10.5 years respectively.

Teacher education

The questions used to determine teacher education differed in the 1992 and 1993 survey. The percentage of teachers holding a graduate degree was somewhat higher for those teachers teaching retained students than for those teaching students in first grade the first time.

Exhibit 6.1
Classroom organization and instructional practices in the failed and repeated first grade

	First graders 1991-1992 (failed year)	First graders 1992-1993 (repeated year)
Teacher years total teaching experience	13.6 years	14.1 years
Teacher years teaching in this school	9.1 years	10.5 years
Percentage teachers with graduate degree	47.9%	53.2%
Class Size (Reading/language arts)	20.7 students	21.4 students
Percentage students with aides in classroom	38%	47%
Minutes/week direct instruction in reading	463 minutes/week	460 minutes/week
Percent instructional time in whole group instruction	42%	43%
Percent instructional time in individualized instruction	18%	22%
Percentage of students with other Title I students in classroom	75%	67%
Percentage of students participating in Title I	58%	34%

Class size

The average class size for first grade students in the failed and retained year was very similar (20.7 to 21.4).

Aides in classroom

In the year that students repeat first grade, their teachers are more likely to have aides in the classroom than in the previous year when they were in first grade the first time through.

Instructional time

We calculated the instructional time in the classroom in reading and language arts instruction as the product of the number of minutes per day and the days per week the teacher indicated she provided direct instruction in reading/language arts. The number of instructional minutes for the two years was very similar (463 and 460).

Instructional grouping strategies

The percentage of instructional time that was spent in whole group instruction in reading was nearly identical in the two first grade experiences. Roughly 40% of the classroom time was spent in whole group instruction in both years. Time in individual instruction also varied little across the two years, being about 4 percentage points higher in the second time through. In both years, students were assigned to their classroom on the basis of ability about a quarter of the time.

Title I students

Of the students who repeated first grade, 58 percent received Title I services the first time they were in first grade while only 34 percent received services in the repeated year. This is an interesting finding that suggests that retained students are less likely to receive services in the year they are retained than they do in the year they fail the first grade.

Looking at the timing of services, we find that about 25 percent of the students who repeated were in Title I in both years in first grade. Interestingly, nearly one-third of the children who failed first grade did not receive Title I services in either year. One-third were in Title I in the first year, but not in the second year. Exhibit 6.2 details these results.

Exhibit 6.2
Timing of Title I services
Students retained in 1992-1993
N=250

	YES Title I in repeated year	NO Title I in repeated year
YES Title I in failed year	25.2%	32.8%
NO Title I in failed year	8.4%	33.6%

Approaches to reading

In an effort to reduce response burden, the teacher survey in 1993 was drastically shortened. Unfortunately, these changes to the questionnaire prevent analysis of many interesting questions concerning the coherence of the curriculum across the failed and repeated years.

It is interesting, nonetheless, to look just at the distribution of retained children by the main approach used in reading, a question included in the 1992 survey. The question asked the teacher to indicate the main approach to reading and the approaches listed were primarily phonetic, sight word, whole language, language experience, and an eclectic approach. The percentages of teachers using each approach were:

- phonetic (31.4%)
- sight word (4.3%)
- whole language (26.1%)
- language experience (2.4%)
- eclectic approach (24.6%)

In the year that students failed the first grade, the unsuccessful students experienced many different reading approaches. The largest percentage of them were taught by teachers who primarily emphasized a phonetic approach. Of course, teachers may or may not have been able to accurately portray the main approach they used. However, it does suggest that students can experience difficulties with many and all methods of teaching reading. This characteristic of learners and instruction should provide at least some doubt that there are "proven" methods by which all children will be successful in learning to read.

This brief comparison of the features of classrooms that students experience in the failed and repeated year suggest that by and large students REPEAT first grade. In terms of teacher characteristics, such as years of experience, educational attainment, class size, grouping practices, and instructional time, the two first grade experiences are very similar.

Chapter Summary

This chapter addressed the question: How do the experiences of retained children differ in the "failed" and the "repeated" year? The available data suggest that these two years in the same grade are in fact very similar in terms of classroom organization and instructional content and approaches. However, the data analysis for this question was limited by the lack of comparable measures in the relevant years of data collection.

SUMMARY

The benefits and disadvantages of holding children back a year in school have been debated for years in the scholarly and popular press. Despite the wealth of studies addressing this topic, little consensus has emerged on the effectiveness of grade retention as a practice.

Several factors have contributed to the conflicting results. The choice of study design and the types of comparisons made tend to favor retention or promotion in a systematic way. For example, studies that compare retained and promoted students when they are the same age, but in a different grade, tend to favor the promoted students, who are, after all, studying more advanced material. At the same time, studies that compare retained and promoted students in the same grade, after retention, favor the retained students, who have spent twice as long on the same material.

In addition, there are differences in the reasons for and practices of retention. In some cases, retention is undertaken primarily because of academic difficulties; in others, students are retained due to immaturity or pauses in their social and emotional development. These differences in the reasons for retention may be related to differences in effects. Similarly, differences in populations (e.g., suburban vs rural vs urban or students in 1980 vs students today) may contribute to differences in conclusions.

The present study deals with these issues as it addresses the question of the effects of retention. The purpose of the present study is to investigate the practice and effects of grade repetition using a nationally representative sample of early elementary children coupled with a methodologically adequate approach. We utilize the first grade cohort in the *Prospects* data. We focus on the first grade cohort because most retentions take place before or in the early grades. The timing of retention in the first grade cohort allows us to look at the students before, during, and after retention, an important analysis strategy.

The paper addresses four topics: the measurement, prevalence and demographics of retention (Chapters 1 and 2), the timing of retention (Chapters 2 and 3), the achievement (Chapter 4) and behavioral (Chapter 5) effects of retention, and the context and content of retention (Chapter 6).

The major findings from Chapter 1 include the fact that most children (81.6%) in grades K-3 in the *Prospects* study never repeat a grade. Of the children who do repeat, most (90.5%) repeat a grade only one time. First grade is the most frequent grade for retention. Of the retentions that take place in K-3, 51.8% take place in grade 1.

In Chapter 2, we look at the question of who is retained. Several background and demographic factors substantially increase the chances of being retained in grade. In particular, the following characteristics increase the likelihood of being retained in grade: gender (male), race/ethnicity (Other), mobility, disability and health status, family size, living in the South, attending a high poverty school, and being a Title I student.

By the same token, there are background and other factors that serve to protect children from being retained in grade. These include being of Hispanic origin, attending preschool, living in an urban area, having a more educated mother with a higher income, and being rated by the teacher as more motivated and not having trouble paying attention.

Factors that were not associated in this sample with being retained in grade included attending Head Start before first grade, the number of items in the home, living in a household headed by a single parent, being Black, and initial reading vocabulary score.

The timing of grade retention, the topic of Chapter 3, is related to child, family, and school characteristics. White children in rural and Western states who attend medium poverty schools are much more likely to be held back in kindergarten and in pre-first programs than they are at first grade or later. Children who are Black, who participate in Title I and who attend urban and high poverty schools in the South are much more likely to be retained in first grade or later than they are in kindergarten. Parents of children who are retained before first grade see immaturity as the major reason for retention while parents of children who are retained in first grade or later see academic difficulties as the main reason for retention.

In Chapter 4, we address the question of the academic achievement effects of retention. Keeping in mind that same-age and same-grade comparisons provide different information, both sets of analyses were carried out. Same grade comparisons of regularly promoted and retained children indicate positive academic achievement effects for retention in the year of retention, with decreasing effectiveness in subsequent years. Before retention, the average standardized difference between these two groups was 1.21; at the end of the year of retention, the difference was .38. In the next years, the difference between these two groups averaged about .60 of a standard deviation.

When these comparisons are adjusted for family background factors and prior test scores, the differences shrink appreciably. However, the general pattern of large differences between retained and never-retained students prior to retention, followed by smaller differences after retention, was found as well. Prior to retention, the adjusted effect size was .50 of a standard deviation, at the end of the year of retention the effect size was .19. In the following years, the effect size became .21.

Same grade comparisons of low performing students who are and are not retained indicated a strong positive effect for retention in the year of retention which was substantially reduced in the year following. The same-age comparisons generally did not yield positive results for retention. Therefore, the effects of retention vary with the basis of comparison utilized.

The relationship between retention and social and emotional development was discussed in Chapter 5. Retained and promoted children differed in teacher ratings of attention, cooperation, and participation. Same-grade and same-age comparisons were presented for three comparison groups: never-retained children in comparison to first grade repeaters, never-retained children compared to first grade repeaters after adjusting for differences in background characteristics, and never-retained low performing children compared to first grade repeaters with comparable low performance.

Patterns of differences between retained and promoted children varied somewhat with the sample used and whether same-age or same-grade comparisons were being made. Differences in ratings of attention/motivation to learn, however, were consistently observed prior to retention. These differences were also consistently reduced after retention across the various samples and comparisons made. The difference between ratings of cooperation and participation prior to and following retention were not as striking or as consistent as those for attention/motivation.

Finally in Chapter 6, we compared the children's experiences in the first grade and in the retained grade. Due to differences in questionnaire construction at the different years, there were not many items which were directly comparable. However, the available data do suggest that students who are retained in fact do repeat first grade, in that the experiences, classroom organization, instructional content, and approaches do not seem to differ significantly between the regular and the retained year.

Is retention beneficial to students? The comparison strategies (same age or same grade), and comparison groups (comparable or not-matched children) used influence the answer to this question. In same grade comparisons, retention does appear to consistently shrink the before-retention achievement gap between retained and promoted children. In this sense, retention may be said to be beneficial. At the same time, retention does not close the gap, nor does it leave retained children performing at an acceptably high level. Even after the gains from retention, the retained children are still not performing adequately. Given these results, whether retention is seen as effective or a waste of time largely depends upon the outcome expected. Yes, retained children do catch up somewhat to their same grade peers after retention, but in many instances, they are still not performing adequately.

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APPENDIX A
DESCRIPTION OF MEASURES

Gender

MALE

Male=1, Female=0

Race/Ethnicity

BLACK
WHITE
HISPANIC
OTHER

Dummy variables coded for each race/ethnicity category

Mobility

DMOVE

Dummy variable: 1=moved in the year, 0=did not move

Disability

DDIS92

Dummy variable: 1=disability, 0=no disability; disability status in spring 1992

Health

DHELTH92

Dummy variable: 1=some health problem, 0=no health problem noted in spring 1992

Family Size

FAMSIZE

Number of people residing in household

Mother's Education

FEM_EDU

Highest grade completed of mother

Mother's Income

FEM_INC

Mother's annual income

Mother's Occupation

FEM_OCC

Mother's occupational prestige

Items in the Home

TEMSAVG

Average number of items in the home

Single Parent

SINGLE92

A dummy variable that indicated if no other adult present in the house at the end of the first grade year

Chapter 1

CHAPTER1

A dummy variable that indicated participation in Chapter 1

Attended Preschool

M2Q5DE

A dummy variable indicating attendance at preschool

Head Start Attendance

M2Q5DD

A dummy variable indicating Head Start attendance

School Poverty Level

SCHOOLPOV

A continuous variable indicating the percent poverty of the school attended at the end of first grade

Reading Vocabulary

T8SSRV

The CTBS scale score on the reading vocabulary tests at the start of the first grade

Attention/Motivation

ATTEN2

The average value on a 7-item scale designed to measure student attention and motivation to learn as rated by the teacher at the end of the first grade

Region of the Country

REGIONSO

A dummy variable indicating school was in the southern region

Urbanicity

URBAN_D

A dummy variable indicating urban location of the school

RURAL_D

A dummy variable indicating rural location of the school

DESCRIPTIVE STATISTICS

	N	Min	Max	Mean	Std. Deviation
MALE	8695	.00	1.00	.5126	.4999
BLACK	8665	.00	1.00	.1998	.3998
HISPAN	8665	.00	1.00	.1902	.3925
OTHER	8665	.00	1.00	7.074E-02	.2564
DDIS92	8695	0	1	.18	.38
DHELTH92	8695	0	1	.21	.41
FAMSIZE	8695	1	16	4.72	1.45
FEM_EDU	8695	8	20	12.26	2.15
FEM_INC	8695	0	50000	24149.65	15484.74
FEM_OCC	8695	7	70	38.26	17.57
SINGLE92	8695	0	1	.13	.34
DMOVE	8695	0	1	5.98E-02	.24
TEMSAVG	8695	0	16	11.30	3.23
CHAPTER1	8695	.00	1.00	.3218	.4672
M2Q5DD	8695	0	1	9.64E-02	.30
M2Q5DE	8695	0	1	.31	.46
T8SSRV	8695	253	664	468.62	63.35
SCHPOV	8695	1	5	2.80	1.22
REGIONSO	8695	.00	1.00	.3867	.4870
RURAL_D	8695	.00	1.00	.3109	.4629
URBAN_D	8695	.00	1.00	.4384	.4962
Valid N (listwise)	8665				

APPENDIX B
ANALYSES OF RETENTION EFFECTS ON THE ACHIEVEMENT OF CHILDREN WHO REPEATED KINDERGARTEN, FIRST GRADE (IN 1991-1992), AND SECOND GRADE

Children Who Repeated Kindergarten

Exhibit B-1 presents the achievement profiles using same-grade comparisons for children who repeated kindergarten and those who did not repeat any grade. The *Prospects* study did not gather data during the kindergarten year, and assessments of children before retention and immediately after retention in kindergarten were not available. The parent questionnaire and the student abstract data are the sources that indicate if kindergarten retention took place in years prior to the study. We note that the children who have been retained in kindergarten will be in the same grade as their comparison group, but will typically be a year older. The "header" information in each exhibit identifies the group (NR for not retained and R for retained), the modal age for that group, the grade in school, and the time of the assessment used in the comparison.

The table provides the average scale scores for Reading Comprehension (RC), Reading Vocabulary (RV), and Mathematics and the corresponding standard deviations. The difference between the retained and non-retained children in their test scores is also expressed in standard deviation units. The exhibit shows that in the spring of 1992, the kindergarten retained group scored, on average, .53 standard deviation units lower than the never-retained group. Finally, the average across the three assessments is calculated and presented in the bottom row as the average effect size. This effect size expresses the average difference in standard deviation units between the two groups. From Exhibit B-1, we see that the smallest difference between the two groups was observed at the fall of first grade, presumably right after the retention took place. As the children progress through school, these differences appear to be getting larger, although not dramatically.

In terms of the same-grade comparisons, then, Exhibit B-1 shows that students retained in kindergarten perform less well than their regularly progressing, and younger, classmates and these differences appear to increase with time.

Children Repeating First Grade in 1991-1992

Exhibit B-2 provides the same grade comparisons for the children who repeated first grade in 1991-1992. This group of children were in the first grade for the second time when the study began in Fall 1991. In comparison to their same grade, but different aged classmates at the start of the year, there are minor achievement differences between the two groups (average effect size =.06). This suggests that at the start of the repeated first grade year, the retained children have similar achievement to the children who were starting first grade for the first time. At the end of this second time in first grade, however, the retained children are beginning to lag behind their younger classmates. The average effect size for the end of the first grade, second time through is .42. This gap grows in grade 2 to .67 and is .76 at the end of the third grade.

Children Repeating Grade 2

Finally, Exhibit B-3 provides the same grade comparisons for students who repeat and do not repeat the second grade in 1993-1994. Their grade progression pattern is 1, 2, 2. We compare performance before retention (in the same grade) and after retention (in different grades). Apparently, the group of children who will be retained in the second grade begin school already at a serious disadvantage in comparison to their never-retained peers (average gap is .88 of a standard deviation). Over the first grade, the gap increases, but remains about the same at the end of the second grade. The second time through the second grade, in comparison to the second grade classmates the previous year, the retained children are still lagging behind by nearly six tenths of a standard deviation.

Exhibit B-1
Comparison of retained and never-retained children
Same-grade comparisons
Children who repeated kindergarten

	Group Age Grade Year NR 6 1 Fal 91 R 7 1 Fal 91			Group Age Grade Year NR 6 1 Spr 92 R 7 1 Spr 92			Group Age Grade Year NR 7 2 Spr 93 R 8 2 Spr 93			Group Age Grade Year NR 8 3 Spr 94 R 9 3 Spr 94		
	RC	RV	Math	RC	RV	Math	RC	RV	Math	RC	RV	Math
Not repeated n=7091	469.6 (68.6)	473.2 (62.8)	472.3 (67.6)	552.4 (75.6)	562.4 (61.9)	554.7 (70.2)	620.7 (86.2)	629.5 (62.3)	626.0 (66.4)	665.5 (72.4)	661.4 (53.4)	675.0 (63.1)
Repeated n=598	458.9 (66.2)	455.8 (58.8)	452.7 (67.7)	511.5 (74.9)	530.5 (57.5)	522.9 (70.1)	573.7 (77.1)	594.0 (62.2)	591.1 (65.6)	627.0 (66.4)	631.4 (51.5)	638.9 (61.6)
Avg. difference	10.6	17.3	19.7	40.8	31.9	31.8	47.0	35.4	34.9	38.5	30.0	36.1
Pooled standard deviation	68.4	62.6	67.8	76.3	62.2	70.7	86.4	63.0	67.0	72.7	53.8	63.7
Standardized diff	.16	.28	.29	.53	.51	.45	.54	.56	.52	.53	.56	.57
Avg. effect size	.24			.50			.54			.55		

Exhibit B-2
Comparison of retained and never-retained children
Same-grade comparisons
Children who repeated first grade in 1991-1992

	Group Age Grade Year NR 6 1 Fal 91 R 7 1 Fal 91 (second time, repeated year)			**Group Age Grade Year** NR 6 1 Spr 92 R 7 1 Spr 92 (second time, repeated year)			**Group Age Grade Year** NR 7 2 Spr 93 R 8 2 Spr 93			**Group Age Grade Year** NR 8 3 Spr 94 R 9 3 Spr 94		
	RC	RV	Math	RC	RV	Math	RC	RV	Math	RC	RV	Math
Not repeated n=7091	469.6 (68.6)	473.2 (62.8)	472.3 (67.6)	552.4 (75.6)	562.4 (61.9)	554.7 (70.2)	620.7 (86.2)	629.5 (62.3)	626.0 (66.4)	665.5 (72.4)	661.4 (53.4)	675.0 (63.1)
Repeated n=445	461.0 (67.0)	473.4 (60.3)	469.1 (67.7)	519.9 (66.2)	534.5 (51.5)	527.9 (65.5)	563.4 (68.9)	582.6 (53.4)	585.4 (58.8)	610.6 (57.5)	621.6 (45.0)	625.1 (50.7)
Average difference	8.6	-.8	3.2	32.5	27.9	26.8	57.3	46.9	40.6	54.9	39.8	49.9
Pooled standard deviation	68.5	62.6	67.7	75.5	61.7	70.2	86.3	62.8	66.7	72.7	53.7	63.6
Standardized diff	.12	.00	.05	.43	.45	.38	.66	.75	.61	.76	.74	.78
Average effect size	.06			.42			.67			.76		

Exhibit B-3
Comparison of retained and never-retained children
Same-grade comparisons
Children who repeated second grade 1993-1994

	Group Age **Grade** **Year** NR 6 1 Fal 91 R 6 1 Fal 91			**Group** Age **Grade** **Year** NR 6 1 Spr 92 R 6 1 Spr 92			**Group** Age **Grade** **Year** NR 7 2 Spr 93 R 7 2 Spr 93			**Group** Age **Grade** **Year** NR 7 2 Spr 93 R 8 2 Spr 94		
	RC	RV	Math	RC	RV	Math	RC	RV	Math	RC	RV	Math
Not repeated n=7091	469.6 (68.6)	473.2 (62.8)	472.3 (67.6)	552.4 (75.6)	562.4 (61.9)	554.7 (70.2)	620.7 (86.2)	629.5 (62.3)	626.0 (66.4)	620.7 (86.2)	629.5 (62.3)	626.0 (66.4)
Repeated n=158	418.9 (58.8)	418.3 (50.7)	403.0 (58.3)	461.3 (76.5)	489.7 (62.5)	475.3 (71.1)	525.2 (86.8)	552.4 (63.1)	546.1 (60.3)	572.0 (61.4)	597.0 (41.1)	597.4 (48.4)
Avg. difference	50.7	54.9	69.3	91.1	72.7	79.4	95.5	77.1	79.9	48.7	32.5	28.6
Pooled standard deviation	68.8	63.0	68.2	76.5	62.5	71.1	86.8	63.1	67.3	73.8	51.7	57.4
Standardized diff.	0.74	0.87	1.02	1.19	1.16	1.12	1.10	1.22	1.19	0.66	0.63	0.49
Avg. effect size	0.88			1.16			1.17			0.59		

APPENDIX C

Analyses of the effects of retention on the achievement for students retained in kindergarten, first grade (1991-1992), and second grade

Children Repeating Kindergarten

Exhibit C-1 presents the adjusted differences between the retained and the non-retained students. Considering background and other factors, the differences between the retained and non-retained children are reduced at least by half. For example, the difference in reading comprehension score was reduced from 40.8 to 26.9 points, or from one-half to about one-quarter of a standard deviation. Once the prior test scores are controlled for, the differences between the two groups appear to become smaller over the years, not larger as in the case of the unadjusted comparisons.

Children Repeating First Grade in 1991-1992

A similar reduction in the magnitude of the effect sizes is seen for the students who repeat first grade in 1991 to 1992 (see Exhibit C-2). The effect sizes for the adjusted sample also do not get larger over the grades as they do in the non-adjusted sample.

Children Repeating Second Grade

For this group of children, once we adjust for differences related to family background, the gaps prior to and after retention are fairly similar (see Exhibit C-3). This contrasts with the large reduction in the before-retention gap in the same-grade unadjusted effects.

Exhibit C-1
Comparison of retained and never-retained children
Same-grade comparisons
Children who repeated kindergarten
Adjusted Difference Scores

	Group Age Grade Year NR 6 1 Fal 91 R 7 1 Fal 91			Group Age Grade Year NR 6 1 Spr 92 R 7 1 Spr 92			Group Age Grade Year NR 7 2 Spr 93 R 8 2 Spr 93			Group Age Grade Year NR 8 3 Spr 94 R 9 3 Spr 94		
	RC	RV	Math	RC	RV	Math	RC	RV	Math	RC	RV	Math
Not repeated n=7091	469.6 (68.6)	473.2 (62.8)	472.3 (67.6)	552.4 (75.6)	562.4 (61.9)	554.7 (70.2)	620.7 (86.2)	629.5 (62.3)	626.0 (66.4)	665.5 (72.4)	661.4 (53.4)	675.0 (63.1)
Repeated n=598	458.9 (66.2)	455.8 (58.8)	452.7 (67.7)	511.5 (74.9)	530.5 (57.5)	522.9 (70.1)	573.7 (77.1)	594.0 (62.2)	591.1 (65.6)	627.0 (66.4)	631.4 (51.5)	638.9 (61.6)
Adjusted difference score				26.9	14.8	7.8	7.8	6.2	10.0	6.9	4.7	5.4
Adjusted standard deviation				.35	.23	.11	.09	.09	.15	.09	.08	.08
Avg. effect size				.23			.11			.08		

Exhibit C-2
Comparison of retained and never-retained children
Same-grade comparisons
Children who repeated first grade in 1991-1992
Adjusted Difference Scores

	Group Age Grade Year NR 6 1 Fal 91 R 7 1 Fal 91 (second time, repeated year)			**Group Age Grade Year** NR 6 1 Spr 92 R 7 1 Spr 92 (second time, repeated year)			**Group Age Grade Year** NR 7 2 Spr 93 R 8 2 Spr 93			**Group Age Grade Year** NR 8 3 Spr 94 R 9 3 Spr 94		
	RC	RV	Math	RC	RV	Math	RC	RV	Math	RC	RV	Math
Not repeated n 7091	469.6 (68.6)	473.2 (62.8)	472.3 (67.6)	552.4 (75.6)	562.4 (61.9)	554.7 (70.2)	620.7 (86.2)	629.5 (62.3)	626.0 (66.4)	665.5 (72.4)	661.4 (53.4)	675.0 (63.1)
Repeated n 445	461.0 (67.0)	473.4 (60.3)	469.1 (67.7)	519.9 (66.2)	534.5 (51.5)	527.9 (65.5)	563.4 (68.9)	582.6 (53.4)	585.4 (58.8)	610.6 (57.5)	621.6 (45.0)	625.1 (50.7)
Adjusted difference				20.2	20.0	5.4	21.9	20.0	17.6	15.6	5.7	13.7
Standard adjusted difference				.26	.32	.08	.25	.32	.26	.21	.11	.22
Average effect size standard difference				.22			.27			.18		

Exhibit C-3
Comparison of retained and never-retained children
Same-grade comparisons
Children who repeated second grade 1993-1994
Adjusted comparisons

	Group Age Grade Year NR 6 1 Fal 91 R 6 1 Fal 91			**Group Age Grade Year** NR 6 1 Spr 92 R 6 1 Spr 92			**Group Age Grade Year** NR 7 2 Spr 93 R 7 2 Spr 93			**Group Age Grade Year** NR 7 2 Spr 93 R 8 2 Spr 94		
	RC	RV	Math	RC	RV	Math	RC	RV	Math	RC	RV	Math
Not repeated n=7091	469.6 (68.6)	473.2 (62.8)	472.3 (67.6)	552.4 (75.6)	562.4 (61.9)	554.7 (70.2)	620.7 (86.2)	629.5 (62.3)	626.0 (66.4)	620.7 (86.2)	629.5 (62.3)	626.0 (66.4)
Repeated n=158	418.9 (58.8)	418.3 (50.7)	403.0 (58.3)	461.3 (76.5)	489.7 (62.5)	475.3 (71.1)	525.2 (86.8)	552.4 (63.1)	546.1 (60.3)	572.0 (61.4)	597.0 (41.1)	597.4 (48.4)
Avg. difference	50.7	54.9	69.3	91.1	72.7	79.4	95.5	77.1	79.9	48.7	32.5	28.6
Adjusted difference				54.8	34.6	12.0	16.4	17.2	23.4	8.0	13.1	16.0
Adjusted standard difference				.72	.55	.17	.19	.27	.34	.11	.25	.28
Adjusted avg. standard difference				.48			.27			.21		

APPENDIX D
Measurement of Attention/Motivation, Cooperation, and Participation

Cooperation/Compliance Scale[1]

Variable Description	1992	1993	1994
Gets along with teachers	10f	10f	9f
Has respect for authority	10i	10i	9h
Is honest most of the time	10d	10d	9d
Is willing to follow rules	10b	10b	9b
Can work with other students	10p	10p	9n
Is happy most of the time	10k	10k	9j
Does not disrupt class	19d	9d	8d
Makes friends easily	10e	10e	9e
Enjoys school	10g	10g	9g

Attention/Motivation Scale

Variable Description	1992	1993	1994
Attention span	8b	8b	7b
Pays attention in class	9c	9c	8c
Motivation to learn	8c	8c	7c
Can concentrate for at least ½ hour	10m	10m	-
Works hard at school	10a	10a	9a
Cares about doing well	10c	10c	9c
Is a creative person	10j	10j	9i

Class Participation Scale

Variable Description	1992	1993	1994
Asks questions in class	9e	9e	8e
Class participation	9f	9f	8f
Asks for extra help	9g	9g	8g

[1]The questionnaire items from the Student Profile are listed for each scale. The relevant 1992 Student Profile items are attached.

1992 Student Profile Items

8. Compared to others his age, please rate this student on the following dimensions. Circle one response for each attribute for each student.

a. Maturity level
   High Medium Low Don't know
b. Attention span (response categories as above)
c. Motivation to learn

9. Please indicate the extent to which this student: Circle one response for each activity for each student

a. Completes homework assignments
   High Medium Low Not Applicable Don't know
b. Completes seatwork assignments
c. Pays attention in class
d. Disrupts the class
e. Asks questions in class
f. Volunteers answers/takes part in class discussions
g. Asks for extra help

10. Please indicate how well you think each characteristic describes this student. Circle one response for each characteristic.

a. Works hard at school
   Very much Somewhat Not at all Don't know
b. Is willing to follow rules
c. Cares about doing well in school
d. Is honest most of the time
e. Makes friends easily
f. Gets along well with teachers
g. Enjoys school
h. Feels that he/she is a person of value
i. Has respect for authority
j. Is a creative person
k. Is happy most of the time
l. Can work independently on an assignment
m. Can concentrate for at least ½ hour
n. Can understand and follow directions
o. Can write a well-developed, coherent paragraph or paper
p. Can work cooperatively with other students
q. Is late for school

APPENDIX E
Analyses of Retention and Behavioral Measures for Children Repeating Kindergarten, First (1991-1992), and Second Grades

Children Who Repeat Kindergarten

Exhibit E-1 compares the behavioral ratings for children who repeat kindergarten and those who never repeat any grade. The measures utilized here are standardized variables; that is, they express the deviation of the student from the overall mean, adjusted for the standard deviation. Exhibit E-1 indicates that kindergarten retained children are much more likely to be rated below the average in all behavioral measures than their regularly promoted peers. These differences are fairly consistent across the years 1992, 1993, and 1994, averaging .42, .43, and .36. The children retained in kindergarten therefore score about the same relative to their classmates across the grades 1 to 3. The differences are largest for measures of attention.

Children Who Repeat Grade 1 (1991-1992)

In Exhibit E-2, the behavioral ratings of children retained in first grade (in 1991-1992) are contrasted with those children who never repeated a grade. At the end of the repetition of the first grade (Spring 1992, when the children had completed the repeated year), the retained children were significantly below the promoted children in the teacher's ratings of attention and cooperation, but not participation. This pattern of differences held up across grades 2 and 3 as well, which entailed ratings from different teachers. The differences between the retained and promoted children appear to be getting wider after the year of retention. However, we do not have information on what the differences were prior to retention in this group of children.

Children Who Repeat Grade 2 (1993-1994)

Exhibit E-3 shows a familiar pattern of large before-retention differences that are reduced in the end of the year of retention. In the spring of 1992 and the spring of 1993, when the retained and promoted children were both in grades 1 and 2, the average difference across the three behavioral measures was roughly nine-tenths of a standard deviation. The differences are especially noteworthy in the attention factor. At the end of the retained year, these differences are cut in half. This pattern of results parallels that found for the sample of first grade retainees. These results indicate again how important it is to measure the children's performance prior to retention. The behavioral measures follow the same pattern as the achievement measures in which large differences prior to retention are reduced appreciably at the end of the year of retention. Before they have been retained, children who will be retained score 1.3 standard deviation units below their non-retained peers on teacher ratings

of attentiveness. At the end of the year of retention, this difference is reduced by one-half, to .62 standard deviation units. In the three years following, the differences appear to remain about the same as they were in the year of retention, being .65, .54, and .49, respectively.

Exhibit E-1
Comparison of retained and never-retained children
Same-grade comparisons
Children who repeated kindergarten

	Group Age Grade Year NR 6 1 Spr92 R 7 1 Spr92			**Group Age Grade Year** NR 7 2 Spr 93 R 8 2 Spr 93			**Group Age Grade Year** NR 8 3 Spr 94 R 9 3 Spr 94		
	Atten	Coop	Partic	Atten	Coop	Partic	Atten	Coop	Partic
Not repeated n= 7091	.16	.12	.07	.15	.12	.07	.13	.11	.07
Repeated n= 598	-.35	-.30	-.20	-.41	-.30	-.20	-.36	-.25	-.17
Difference	.52	.42	.28	.55	.42	.28	.49	.35	.23
Standard average difference	.54	.44	.28	.56	.44	.28	.49	36	.23

Exhibit E-2
Comparison of retained and never-retained children
Same-grade comparisons
Children who repeated first grade

	Group Age Grade Year NR 6 1 Spr92 R 7 1 Spr92			**Group Age Grade Year** NR 7 2 Spr 93 R 8 2 Spr 93			**Group Age Grade Year** NR 8 3 Spr 94 R 9 3 Spr 94		
	Atten	Coop	Partic	Atten	Coop	Partic	Atten	Coop	Partic
Not repeated n= 7091	.16	.12	.07	.14	.12	.07	.12	.11	.07
Repeated n=445	-.40	-.40	-.20	-.59	-.56	-.25	-.53	-.51	-.19
Difference	.56	.53	.27	.73	.68	.32	.66	.61	.26
Standard average difference	.58	.55	.28	.74	.70	.32	.67	.62	.26

Exhibit E-3
Comparison of retained and never-retained children
Same-grade comparisons
Children who repeated second grade 1993-1994

	Group Age Grade Year NR 6 1 Spr92 R 6 1 Spr92			**Group Age Grade Year** NR 7 2 Spr 93 R 7 2 Spr 93			**Group Age Grade Year** NR 7 2 Spr 93 R 8 3 Spr 94		
	Atten	Coop	Partic	Atten	Coop	Partic	Atten	Coop	Partic
Not repeated n= 7091	.16	.12	.07	.14	.12	.07	.14	.12	.07
Repeated n=158	-1.03	-.64	-.57	1.01	-.62	.57	-.49	-.33	-.36
Difference	1.19	.76	.64	1.15	.74	.65	.64	.45	.43
Standard average difference	1.24	.80	.65	1.17	.78	.66	.68	.46	.43

APPENDIX F
Behavioral Ratings and Student Demographic Factors

This section describes the relationship between student background factors and teachers' behavioral ratings. Exhibits F-1 to F-8 contain the relevant data.

Gender

At all grade levels, females are rated higher in all behavior ratings than are males. That is, girls are seen by their teachers as more attentive, cooperative, and participating in class more often. The differences are statistically significant for ratings of attention, cooperation, and participation at grades 1, 2, and 3. See Exhibit F-1.

Ethnicity

Exhibit F-2 displays the average behavioral ratings by ethnicity. The relationship among ethnicity and behavior rating differs for the specific behavioral rating. For attention/motivation, the ratings are Other>White>Hispan>Black. This pattern holds true for grades 1, 2 and 3. The patterns for participation are the same across all years as well. Teachers rated Whites the most participatory and Other students the least participatory. The pattern for participation shows the ratings as White>Black>Hispan>Other. Finally, in terms of ratings of cooperation, teachers rated Other students as being the most cooperative and Black students the least. The ordering was Other>White>Hispan>Black.

Despite variations in the precise positioning in the rankings, overall, White and Other children were given more favorable behavior ratings by teachers than were Hispanic and Black children.

Health and Disability Status

Teachers consistently rate students who have health problems or a disability as being less attentive, less cooperative, and less likely to participate in classroom activities than those without such disabilities. For every behavioral measure, for every comparison at grades 1, 2, and 3, children with health problems and presence of disability were rated lower by their teachers than those without such problems. (The specific health problems came from the student profile in which the teacher indicated the presence of problems in the areas of general health and hygiene, inadequate nutrition, inadequate rest, stress, or conflict in the home. The specific disabilities included visual handicaps, hearing problems, deafness, speech problems, orthopedic problem, and other physical disability.) See Exhibit F-3.

Mobility

Students who experience a move early in their school careers are more likely to have difficulty in adjusting to school and in making adequate academic progress. In the *Prospects* data, we find that teachers rate mobile students lower than non-movers on participation, cooperation, and attention at each grade level (see Exhibit F-4).

Family SES

Exhibit F-5 provides the correlations among the behavioral ratings and three measures of family SES: the average number of items in the home, the income of the family, and the mother's occupational prestige. The exhibit indicates a modest, although significant, positive relationship between family SES measures and behavioral ratings. Of the three measures, the behavioral indicators are most strongly tied to family income.

School Poverty

The relationship between the poverty level of the school and the ratings of attention, cooperation, and participation are provided in Exhibit F-6. Teachers of students in low-poverty schools rate their students as more cooperative, more attentive, and more interested in school than do teachers of students in high poverty schools. This relationship of school poverty and behavioral ratings holds true across the three measures and the three grades.

Student Academic Performance

We next examine the relationship between academic performance and teacher ratings of behavior. Exhibit F-7 shows the correlation between student performance at the end of each grade and the teacher rating of student behavior for the corresponding time point. The most notable result in this table is that teacher ratings of attention are more highly correlated with students' performance than are the ratings of cooperation and participation. Those students whom teachers see as able to stay focused and pay attention have consistently higher performance than those who are rated less attentive. The relationship between cooperation and participation is not nearly as strongly related to school performance as is that of attentive behavior.

Retention

Exhibit F-8 shows that students who are retained in grade are rated as less cooperative, less attentive, and less participatory than are students who are never retained in grade. This pattern holds true for each behavioral measure for each year. Exhibit F-8 looks simply at children who were ever retained and does not differentiate by the timing of the retention.

Exhibit F-1
Behavioral Measures by Gender

		ATTEN 1	ATTEN 2	ATTEN 3	PARTIC 1	PARTIC 2	PARTIC 3	COOP 1	COOP 2	COOP 3
Female N=4491	Mean	2.41	2.39	2.33	2.02	2.01	1.96	2.70	2.68	2.65
	Std.	.53	.54	.55	.53	.55	.54	.37	.37	.38
Male N=4749	Mean	2.19	2.16	2.07	1.98	1.98	1.91	2.53	2.49	2.45
	Std.	.58	.58	.57	.54	.56	.58	.45	.45	.46
Total N=9240	Mean	2.30	2.27	2.20	2.00	1.99	1.93	2.61	2.58	2.55
	Std.	.57	.57	.58	.54	.56	.56	.42	.43	.44

Exhibit F-2
Behavioral Measures by Ethnicity

	ATTEN 1	ATTEN 2	ATTEN 3	PARTIC 1	PARTIC 2	PARTIC 3	COOP 1	COOP 2	COOP 3
Black N=1836	***2.14***	***2.11***	***2.02***	1.99	1.92	1.89	***2.46***	***2.42***	***2.39***
	.59	.59	.59	.56	.58	.58	.47	.48	.48
White N=4792	2.37	2.33	2.26	**2.04**	**2.05**	**1.97**	2.65	2.63	2.59
	.55	.55	.56	.52	.54	.54	.40	.40	.42
Hispanic N=1808	2.25	2.23	2.14	1.95	1.92	1.89	2.63	2.60	2.54
	.58	.57	.60	.55	.58	.60	.40	.40	.43
Other N=643	**2.40**	**2.43**	**2.34**	***1.89***	***1.96***	***1.86***	**2.69**	**2.69**	**2.67**
	.57	.53	.56	.56	.53	.53	.40	.38	.39
Total N=9079	2.30	2.27	2.20	2.00	1.99	1.93	2.61	2.58	2.55
	.57	.57	.58	.54	.56	.56	.42	.43	.44

ATTENTION: **Other** > White > Hispanic > ***Black***
PARTICIPATION: **White** > Black > Hispanic > ***Other***
COOPERATION: **Other** > White > Hispanic > ***Black***

Exhibit F-3
Behavior Measures by Health and Disability Status

HEALTH

	ATTEN 1	ATTEN 2	ATTEN 3	PARTIC 1	PARTIC 2	PARTIC 3	COOP 1	COOP 2	COOP 3
NO	2.34	2.30	2.22	2.01	2.00	1.94	2.64	2.61	2.57
	.55	.55	.57	.53	.56	.56	.40	.41	.43
YES	2.14	2.15	2.09	1.96	1.96	1.89	2.49	2.50	2.46
	.62	.60	.60	.57	.56	.57	.49	.47	.47
TOTAL	2.30	2.27	2.20	2.00	1.99	1.93	2.61	2.58	2.55
	.57	.57	.58	.54	.56	.56	.42	.43	.44

DISABILITY

NO	2.35	2.32	2.24	2.02	2.01	1.95	2.64	2.62	2.58
	.55	.56	.57	.53	.56	.56	.40	.41	.43
YES	2.05	2.03	1.99	1.92	1.89	1.85	2.46	2.43	2.41
	.58	.56	.56	.56	.56	.57	.47	.45	.46
TOTAL	2.30	2.27	2.20	2.00	1.99	1.93	2.61	2.58	2.55
	.57	.57	.58	.54	.56	.56	.42	.43	.44

ATTENTION:	Health < No Health Problem	Disability < No disability
PARTICIPATION:	Health < No Health Problem	Disability < No disability
COOPERATION:	Health < No Health Problem	Disability < No disability

Exhibit F-4
Behavioral Measures by Mobility Status

	ATTEN 1	ATTEN 2	ATTEN 3	PARTIC 1	PARTIC 2	PARTIC 3	COOP 1	COOP 2	COOP 3
NO	2.31	2.28	2.21	2.00	2.00	1.94	2.62	2.59	2.56
	.57	.56	.58	.54	.56	.56	.41	.42	.43
YES*	2.15	2.11	2.03	1.96	1.89	1.85	2.46	2.45	2.43
	.59	.58	.59	.56	.55	.55	.48	.46	.47
TOTAL	2.30	2.27	2.20	2.00	1.99	1.93	2.61	2.58	2.55
	.57	.57	.58	.54	.56	.56	.42	.43	.44

* Those who moved within the past year

ATTENTION: Movers = Stayers
PARTICIPATION: Movers = Stayers
COOPERATION: Movers = Stayers

Exhibit F-5
Correlations of Behavioral Measures and Socio-economic Measures

	ATTEN 1	ATTEN 2	ATTEN 3	PARTIC 1	PARTIC 2	PARTIC 3	COOP 1	COOP 2	COOP 3
Items	.199	.189	.186	.078	.139	.099	.141	.162	.158
Female income	.258	.257	.254	.102	.168	.127	.200	.233	.212
Female occupation	.183	.195	.186	.097	.150	.106	.088	.120	.114

Exhibit F-6
Behavioral Measures by Percent Poverty of School

	ATTEN 1	ATTEN 2	ATTEN 3	PARTIC 1	PARTIC 2	PARTIC 3	COOP 1	COOP 2	COOP 3
0-20%	2.45	2.43	2.33	2.03	2.08	1.94	2.68	2.70	2.65
	.53	.52	.52	.52	.53	.53	.41	.38	.38
21-40%	2.34	2.32	2.28	2.00	2.02	1.93	2.65	2.63	2.62
	.55	.56	.55	.51	.54	.52	.39	.39	.39
41-60%	2.33	2.29	2.21	2.02	2.01	1.96	2.63	2.59	2.56
	.58	.58	.59	.55	.56	.57	.43	.43	.44
61-74%	2.29	2.24	2.13	1.99	1.96	1.91	2.62	2.58	2.51
	.57	.57	.59	.54	.55	.55	.41	.42	.44
75-100%	2.20	2.18	2.12	1.97	1.94	1.91	2.54	2.51	2.48
	.58	.58	.59	.56	.58	.59	.43	.45	.47
TOTAL	2.30	2.27	2.20	2.00	1.99	1.93	2.61	2.58	2.55
	.57	.57	.58	.54	.56	.56	.42	.43	.44

Exhibit F-7
Correlation between Behavioral and Performance Measures[1]

	Participation	Cooperation	Attentiveness
End Grade 1	.241	.309	.536
End Grade 2	.266	.351	.541
End Grade 3	.251	.330	.495

Exhibit F-8
Behavioral Measures by Retention Status

		ATTEN 1	ATTEN 2	ATTEN 3	PARTIC 1	PARTIC 2	PARTIC 3	COOP 1	COOP 2	COOP 3
NOT RETAINED	Mean	2.39	2.35	2.27	2.66	2.64	2.59	2.04	2.03	1.97
	N	7091	7091	7091	7091	7091	7091	7091	7091	7091
	Std. D	.54	.55	.56	.40	.40	.42	.53	.55	.56
RETAINED	Mean	1.95	1.95	1.91	2.41	2.39	2.38	1.85	1.84	1.80
	N	1604	1604	1604	1604	1604	1604	1604	1604	1604
	Std. D	.57	.55	.55	.47	.46	.46	.56	.56	.56
TOTAL	Mean	2.31	2.28	2.20	2.62	2.59	2.55	2.00	2.00	1.94
	N	8695	8695	8695	8695	8695	8695	8695	8695	8695
	Std. D	.57	.57	.58	.42	.42	.44	.54	.56	.56

[1]Performance measure utilized was reading vocabulary scale on the CTBS 4.

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